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An Address.[1]

By B. M. SUTHERLAND,
Retiring President of the Victorian Branch of the British Medical Association.

ON completion of my term of office as President I wish to thank the members for their wholehearted support of and cooperation in the work of the Association. Within the Association itself, this year has been one of harmonious relationship between members, and this has added very greatly to the pleasure that I have had in the honour conferred on me.

I wish to thank the various office-bearers—the Honorary Secretary, Dr. J. P. Major; the Treasurer, Dr. C. H. Mollison; the Chairman, Dr. J. Newman Morris; and Acting Chairman, Dr. Victor Hurley, and the convenors of subcommittees for the tremendous amount of work that they have done and for their regular and unremitting attendance at all meetings. These members are really the cornerstones of the Council.

I desire also to thank the Secretary and the office staff for their loyal support and constant attention to their duties and for the obliging manner in which they have assisted members when approached.

In the retiring presidential address it is customary to review some of the work of the outgoing Council. In doing so I shall confine myself to a few subjects that have impressed themselves on me.

Monthly Meetings of the Association.

I know that members of the Science Subcommittee and of the Council are concerned at the apathy of the general body of members to Branch meetings, as evidenced by attendances.

[1] Delivered at the annual meeting of the Victorian Branch of the British Medical Association on December 7, 1932.

The Science Subcommittee, in arranging for these meetings, endeavours to present a subject of practical usefulness to the general body of members, but they believe also that research workers should be given the opportunity of presenting their results to members. All papers so presented become the property of the Branch, and THE MEDICAL JOURNAL OF AUSTRALIA has the right of publication. Under these circumstances it is to the benefit of the Branch and the Journal that these papers should be so presented, rather than through outside societies and journals. These papers entail much time and, frequently, much expense to the presentor, and it is rather disheartening to him and to the Council when interest as evidenced by attendances is lacking. There is, therefore, naturally a growing tendency for this type of paper to be submitted to other bodies. Again, in the past the charges by the Journal for publication of illustrated articles have appeared excessive to the Subcommittee, and on representation by this Council, the Directors of the Australasian Medical Publishing Company, Limited, have agreed to meet members more considerably than in the past. This latter aspect is a subject which the incoming Council might well continue to press.

To return to the meetings. What is wrong? Is it that the type of paper does not appeal to members? Is it that there are too many lectures provided and members are surfeited? Is it that the time of holding the meetings, 8.30 p.m., is not suitable? Certainly we know that the post-graduate lectures of the Association on everyday subjects, held at 4 p.m., are largely attended. Is that the type of subject which should be introduced at the monthly meetings? Personally, I believe that interest would be greater and attendances better if it were so. We know also that sectional meetings are generally successful. With this in mind, the Science Subcommittee has recommended that for the coming year two of the monthly meetings should be conducted conjointly by the Branch and one of the sections, each active section being asked to cooperate in turn. I hope that this change will appeal to members, and that added interest will be manifested by increased attendance.

The Work of the Council.

The work of the Council has increased in the last few years until as it stands at present, members of the Council, and particularly of the Executive, are compelled to devote an enormous amount of their time to the work of the Association. So one asks oneself whether that demand is not becoming too great; whether the Council, under its present method of conducting its business, is not asking more than a fair thing from those who are prepared to devote their time for the welfare of the profession. It must be realized that in this State, practically every medical man must earn his livelihood, whether he be general practitioner or specialist. Much time is devoted by both to charitable hospital work, leaving a limited amount for his own, consequently the one and a half to two hours given to Council business in the afternoon on an average of twice a week, makes a large call upon his working time, and this is quite apart from the night meetings. Another sacrifice (more of a personal nature) which he must be prepared to make, is the lost pleasure of home association with his wife and children. The medical man has practically no association with his family until the evenings, frequently not then, and Council business demands, on an average, one night meeting a week.

You can thus see that there is a large and increasing demand on Council members as compared with a few years back, and, personally, I believe that there is room for reorganization of methods to limit this.

As it is there are not too many suitable members prepared to interest themselves in the work. If it continues to increase, I believe there will be fewer. One redeeming feature is that as a rule, in a British community, difficulties stimulate interest, and then the workers appear.

Now, for this increase in the business, several factors suggest themselves.

First and foremost, the financial position of public hospitals. (This question was largely dealt with by Dr. Hurley in his presidential address last year.) The activities of semi-public and political bodies, such as the Charities Board, the Committee of the Lord Mayor's Fund, and Hospital Committees who, in attempting to find a way out of their difficulties, give no consideration to the increasing demand on the charitable services of the medical profession, brought to a head the necessity of this Branch formulating a definite hospital policy. Such a policy has been placed before and adopted by this Branch.

The drafting of this policy entailed many months of the most searching inquiry, and the devotion of many hours in consideration by the various Subcommittees and the Council.

The thanks of this Branch should be extended to the Convenor, Dr. D. M. Embelton, and to the Standing Insurance Committee for the vast amount of thought and time that they have expended in formulating the various details.

This policy was submitted during this year to the various interested bodies who, although they agreed with many of the principles, objected to it largely on the question of control, and have refused to consider it further for the time being. This policy has been modified slightly by the Council, and has now been submitted to Cabinet for consideration.

We believe that the fundamentals of the policy are really the only equitable and sound solution of the hospital problem.

In the event of no definite result arising from our proposals, it might be wise for this Branch to consider the advisability of advocating the establishment of hospitals on the Bush Nursing principle in the suburbs and larger centres. You must remember as recently as eight years ago when the Bush Nursing Association began to make itself felt in the country, that the Branch Council was inundated with complaints from country medical men about the activities of the Bush Nursing Association. Since then the Bush Nursing Association has established thirty-two hospitals in country centres, mainly at the request of the medical practitioners of these centres, and these requests are still being received from doctors in other districts. This undoubtedly indicates firstly, that the public

are satisfied, as it is they who provide the money and use the hospital, and secondly, that it suits the profession, both technically and financially. These hospitals do not take, at present, the indigent, but they cater for the intermediate and thrifty, and as such relieve the public hospitals. There would be one difference; that would be in overhead cost, for whereas the secretarial work connected with bush nursing is largely honorary, and for building, advances are made at either no or nominal interest rates, in a scheme adopted in the suburbs on a larger scale, one could hardly expect the work entailed to be honorary or money to be advanced at a nominal rate.

In this way payment for hospital treatment must be at a slightly higher figure. There would be also other aspects of the question to inquire into, other bodies, such as the Nursing Association, to consult, but it certainly would bear consideration.

With regard to Part II of our policy, domiciliary treatment, I may not be right in discussing a policy adopted by the Branch, and so will make my remarks very brief.

Part II, I believe, is idealistic. The arguments I have heard advanced for it are idealistic. It certainly may increase the total remuneration to the profession, if successful. May I mention a couple of points? The services proposed to be rendered are to be much improved on that at present rendered to the lodge members, although the general agreement will be similar. This suggests that the average lodge doctor does not give of his time and skill compatible with his capacity. It means that for a capitation fee and a visitation fee of two shillings and sixpence to three shillings and sixpence or so a doctor is going to devote more time and use more care than he ordinarily devotes to a lodge patient. I do not believe it for one moment. If this were so, it would be a terrible indictment of the medical profession. Payment is relative, and if Part II became the minimum, then it would need only time and there would arise a comparison between this contract treatment and that given by specialist service.

Also, do you not think that the booking of two shillings or three shillings visitation fees, and many will be of one or two visits, will increase the expense and work very greatly? Experience has shown us that at present lodge doctors will not ask payment of two shillings and sixpence for night visits or for certificates or for examinations. Will it be different with visitation fees?

Another thought comes to me, and I will put it to you. If you wished to insure against sickness with the object of knowing your financial obligation, would you insure in a company in which you had an undefined liability and no weekly payment, or would you accept that in which your liability was limited and in which there was a weekly payment. This is the proposition for the average person in this country in considering Part II of the British Medical Association scheme and that propounded by the lodges. Which do you think would appeal most to the average person?

In the profession there is a great divergence of opinion, but I know that at present there are many medical men who, if it were not for their lodge payments, would be in a very invidious position, and they feel that they would be unwilling to have any misunderstandings with lodges.

Personally, I feel that Part II of our scheme would not be attractive to the general public, and also that the profession as a body would be unable to conduct and finance it.

In an association such as ours it is essential that there should be harmony and unanimity. Numerically, we are a small body in the community, but I believe we occupy a unique position from the ethical standpoint when compared with other professional bodies. Individually, we are thought much of and are generally respected and looked upon as persons of honourable intent and outlook, but when we act collectively through the Association, the public, or particularly other governing bodies, seem not to trust us or to believe that we act entirely selfishly and without the welfare of the community at heart. This is not so. Consequently, it is most essential that when we do move there should be that solidarity amongst us.

At the same time a duty devolves on the Association to be honest and just in its demands for the benefit of its members, and those demands should be compatible with the ability of the public to meet them reasonably.

The work of the Council is largely increased by members, particularly the members who have lodges, not making themselves conversant with their lodge agreement and applying to Council for information, stating grievances. This has impressed itself on the members of the Organization Subcommittee for years, and yet with all the circulars on decisions and interpretations sent to members, the same questions are constantly recurring. It surely shows that the average medical man is not a business man, for the first principle then would be the thorough knowledge of the business and professional obligation. The result is that the doctors lose financially; that accounts are questioned; ill-feeling is bred, and the loss of a patient frequently results.

I will mention a few salient points in the agreement. Payment of the lodge doctor should be at the rate of twenty shillings *per annum*, in town, twenty-five shillings in the country. Female lodges pay at the rate of twelve shillings *per annum*. There are also mixed lodges, two in number (the Independent Order of Rechabites and the Sons of Temperance), accepted as such at the time of the Wasley Award. These pay, for female members, sixteen shillings *per annum*. Now any female member joining an ordinary lodge should pay the full award rate, twenty shillings or twenty-five shillings. It has been the custom of secretaries of lodges almost generally to place females on lodge lists and pay at the rate of only twelve shillings *per annum* (the rate for female lodges). This is wrong, and doctors are losing simply because they are unaware of it and/or are too indifferent to check up their lists to see that their cheques are correct. Then again, they do not insist on a complete new list each quarter. They are entitled to it and have only to insist and they will receive it. It is by this means only that they can insure full payment and avoidance of squabbles with patients.

In the event of being unable to receive satisfaction from the secretary then, and only then, should the Council be approached.

Another frequent source of correspondence and expense is the request for information as to whether a lodge member may be charged, and how much. Generally speaking a lodge medical officer should render only the routine service which a general practitioner is ordinarily expected to practise. There are definite exemptions mentioned in the agreement. As medical knowledge advances from time to time and increased knowledge becomes general, the Council has had to interpret upon more recent methods of treatment. For instance, we maintain that X ray, diathermy, biochemical examinations, and even complete urinary and blood analyses, are more specialist services and should be charged for, whilst such treatment as injection of serum and vaccines, whether intravenous or not, and injection of varicose veins are within the scope of general practitioners, and should not be charged for, but a charge should be made for the serum *et cetera*.

In regard to certificates, the only free certificates a lodge member is entitled to are those demanded by the lodge. Any other certificates should be charged for at the time. At present that fee is left to the discretion and good sense of the medical man.

May I mention another charge on which the Organization Subcommittee places a great deal of importance—the fee of two shillings and sixpence for a night visit. The incorporation of this in the award had to be fought for, and the Subcommittee believes that lodge doctors should ask for it at the time. If tactfully done, it will be produced without any ill-will, and it undoubtedly in the end saves many visits to thoughtless patients. It certainly is unwise and unbusinesslike to book it.

We believe also that if lodge doctors would, knowing their agreement, directly interview local secretaries, many of their lodge difficulties would be prevented.

In regard to friction between medical men, fortunately few cases of friction come to the Council, but when they do, much time is taken in arriving at a conclusion, and even this may not be pleasurable to participants. It certainly is not pleasurable to members of the Council.

Personally, I believe that many of these disputes would not occur if a member would think and do to the other fellow what he would like done to himself, and if he, when he fancied there was a wrong, would personally approach the other person. In most instances it would be found that there was a misunderstanding.

One must remember that in the practice of medicine it is an axiom that some of one's patients will go elsewhere and the elsewhere patient come to one. The remembrance of this will save much heartburning and will retain a better feeling between fellow practitioners.

Again, I believe that many disputes would not occur if members of subdivisions would meet regularly, say twice or three times a year, and if once a year a definite social gathering were held and everyone made it his business to be present if possible. I cannot too strongly put this plea to members.

These are some of the matters which have attracted my attention at Council meetings. I have not attempted to dilate on hospital policy. That is too big and intricate a subject to open up tonight and at present it is in abeyance. For drawing attention to some aspects of the Friendly Societies Agreement I offer no apology, because the lack of knowledge, evidenced by correspondence from lodge doctors, calls for some pronouncement. The Council will be always willing to help doctors in every way possible, but at the same time, I think that collaboration on the Award between fellow practitioners would save the Council much unnecessary work.

Finally, the policies I have mentioned tonight have demanded much time and consideration by your Council, but the problems have just begun, and before they are solved they will need much more consideration by future Councils, and above all, all the help that the members will be able to render.

THE SIGNIFICANCE OF ORAL SEPSIS IN THE ADULT.[1]

By H. C. ADAMS, M.R.C.S. (England), L.R.C.P. (London),
Honorary Physician, Sydney Hospital.

IT is well to remind those who may treat lightly such a subject as oral sepsis and who have never given serious thought to the problems which present themselves, that although the mouth is but one portion of the human frame from which the primary cause of systemic disease can arise, nevertheless it supplies the source of the greatest percentage of such diseases.

Tonight we will consider its influence on individuals who, having reached the summit of the plateau of life, should continue along the level of that summit for many years before entering on the inevitable descent the results which so often hurry the individual prematurely down the reverse slope.

Patients present themselves with diverse complaints, the primary causes of which are often not even considered, symptoms only being treated. It is only right and proper that the mind, on every type of disease encountered, be directed to ascertain whether such complaints are not dependent on some, maybe, distant focus.

In making a routine examination of a patient, how many medical men make a critical examination of the mouth; how many make a mental note as to whether all the teeth are present, and, if any are missing, inquire the cause, whether extractions have been made; how many realize that a missing tooth may not have erupted? How many note teeth which are possibly devitalized, any departure from the normal in the colour of the gums, and in the edentulous whether gum retraction is normal. How

[1] Read at a meeting of the New South Wales Branch of the British Medical Association on October 27, 1932.

many consider any irregularity for the presence of septic root ends or of a retention cyst, or when pathological conditions are seen, endeavour to estimate the probable extent with a dental mirror? Such examination is in most cases perfunctory; time and time again mouths containing a mine of sepsis, causing the individual no inconvenience, are neglected; whereas should a parallel condition be found in other parts of the body, immediate action is demanded. Often the individual with chronic periodontal disease, the products of which every minute of the day and night are being absorbed into the blood stream, is allowed to retain his sepsis, constant absorption of which, acting insidiously over often long periods of time, gradually but surely selects and causes degeneration of some important structure in the body.

The conditions of disease found are caries and periodontitis. Caries, if allowed to progress, leads to infection of the pulp cavity through the tubules in the dentine; in advanced caries the pulp chamber is invariably infected. Periodontitis, as the name indicates, is disease of the structures supporting the teeth, the gingivæ, periodontal membrane and alveolar processes. It is characterized by slow progressive destruction of the teeth sockets, commencing at the junction of the periodontal membrane with the gingival tissue, tending to the gradual removal of the attachment of the teeth to the jaw, loss of supporting alveolar bone and final extrusion of the teeth. It may be associated with a few teeth, or may be general in both jaws, rarely to the same extent in individual teeth. The term *pyorrhœa alveolaris* should be restricted to those cases in which an actual discharge of pus can be demonstrated.

Periodontitis is prone to undergo exacerbations and remissions; the former frequently affect one or more teeth, culminating in deep seated abscesses, perforation of the alveolar plate with discharge of pus at the gum margin or laterally. In other cases the process is less acute, loss of alveolar and periodontal membrane proceeding slowly and regularly with but little or no purulent discharge.

Alveolar osteitis is the final stage and is usually more severe than a clinical examination reveals.

Special symptoms are: (i) Loosening from absorption of bony sockets; (ii) softening and œdema of structure between contiguous teeth—radiographical translucency. In the last stages there is often marked diminution in the discharge of pus and slow progress at times persists in the bone after teeth are removed—the jaw may be extensively invaded by a rarefying osteitis.

We shall divide conditions of sepsis into two classes, open and closed. Open sepsis includes all those conditions in which the products are discharged in the main into the oral cavity to mingle with the saliva and to be taken into the digestive system.

Closed sepsis includes all cases of apical sepsis, the products of which are absorbed directly into the blood stream or delivered there eventually through the lymphatics.

The organisms found in open sepsis include the flora of the mouth. The organism found in closed sepsis in the streptococcus, usually of a low grade.

The so-called granuloma is a mass of highly vascular granulation tissue with a definite epithelial lining facing the exit of the dental canal; it is a defensive structure formed by the individual as a response to infected pulp cavities and canals. A normally functioning periapical quarantine area is nature's effective mechanism for protecting the individual.

As the granuloma forms in response to pulp cavity and root canal infections, it enlarges by causing a rarefying osteitis in the adjacent bone, and, when very extensive, may overlap and involve adjacent teeth; when it affects teeth in relationship with the antrum, it may penetrate the antral wall causing a "quiet" antritis.

Certain types of individuals are apparently quite unable to produce such a defensive mechanism; these types are to be regarded as having a low defence. On the other hand, other types producing such a mechanism are to be regarded as having a high defence against pulp and dental canal infections. The defensive mechanism of the granuloma may be destroyed by the intervention of acute diseases such as influenza, pneumonia and other such complaints.

In extractions of teeth with periapical sepsis the granuloma may be left behind and, unless free drainage is provided, the tooth socket may close with the formation of a cyst still containing the infecting organism. Such a cyst may slowly enlarge following the line of least resistance.

The granuloma is invariably quite painless, unless infection by a pus-forming organism is superimposed.

This is a short description of the diseased conditions which our adult may be carrying quite unknown to himself. Absorbing from his "mine of sepsis" he reacts according to his peculiar personal and familial idiosyncrasy to such infections; there is no structure in his framework which is exempt, so protean are the manifestations of septic conditions.

These are conditions very frequently found in our adult suffering from systemic disease, conditions which are often the principal factor in the production of such disease. To estimate the extent of such disease the teeth are examined by X rays. The value of a report of an X ray examination depends on the technique exhibited by the radiologist and his skill in interpretation. Films are quite frequently seen badly produced, yet a serious report is based on them. Once a patient informed me that his teeth were quite all right as they had been examined by X rays, and, as this was obviously wrong, the skiagrams were produced—the apices of the teeth were not even in the picture.

Unfortunately, it appears that a section of the general public has come to think that, unless a dentist possesses a "machine", he is out of date.

Decisions of paramount importance to the patient's well-being, even life, may depend on the interpretation of films. A large percentage of medical practitioners are quite unversed in the interpretations of dental films. How can they be? They have never been taught, nor have they studied comparisons between the films and the actual conditions revealed after extractions.

Dental skiagrams do not reveal infections; they may, or may not, reveal their effects. The extent of absorption does not express the extent of infection. Moreover, it is quite safe to say that pathological conditions, when found, are under-estimated at least 25%.

Radiologists, in reporting on devitalized, pivoted and crowned teeth, in which no apical lesion can be demonstrated, generally state: "No apical sepsis." This is interpreted by a large, too large, percentage of medical and dental practitioners as meaning that no infection is present and that such teeth can be safely ignored as a possible source of infection. Bacteriological examination of the apices of such teeth after extraction, however, shows them often to be heavily infected.

It would be more helpful if such a report were rendered: "No apical sepsis disclosed." Quite frequently is one confronted with such a negative report after the examination of patients with devitalized teeth, suffering from the results of long continued absorption.

The general public regard an X ray report as being infallible. When an X ray report is backed by medical and dental advisors who do not appreciate that such teeth may be heavily infected, the patient refuses naturally to submit to extraction.

As an example, the following case recently came under observation.

A man in the fifties, suffering from severe arthritis, had in his mouth devitalized and pivoted teeth. It was pointed out to him that here was his probable source of infection; he was most emphatic that this could not be so as his teeth had ben examined by X rays and no sepsis had been found.

Organisms in infected teeth are not the only products which may disturb the host, toxic substances are formed tending to prepare him for invasion by these organisms, and may, in addition, or separately from that process, produce definite disturbances of metabolism.

The principal route by which disease is set up in other parts of the body, from infected gums, alveolar bone and infected pulp cavities, is almost without doubt the blood stream. The ingestion of bacteria and their products into the gastro-intestinal canal tends to diminish the resistance of the body towards such organisms and so render the gastro-intestinal canal, gall-bladder and other organs liable to infection. In this way secondary areas of focal infection may be established.

With infective foci at the roots of teeth are usually associated the more severe constitutional diseases, such as endocarditis, carditis, eye and other infections. Suppurative periodontitis is more commonly the exciting cause of chronic infections, such as arthritis.

One still sees crowned teeth allowed to remain in patients suffering from systemic disease. Radiographically they may show no defect, and in some cases may even show signs of vitality, but it is well to remember that the cement with which the crown is fixed is permeable. The cement becomes heavily infected. The infection being practically always purely streptococcal, the products are unable to pass through the gold crown, but can pass through the dentine if the enamel is damaged as it usually is.

I have in mind now several men of middle age suffering from systemic disease, which is slowly but surely bringing them to a premature end. The failure of these persons to have such possible potent foci removed is due to their dental advisors who cannot see anything definitely wrong, but who are apparently quite oblivious to such dangerous infections existing.

Thus is presented to you very shortly an account of conditions so commonly seen in the middle-aged man, and which he is allowed to carry, even in some cases encouraged to carry. Why? Because the results of the inevitable absorption are not appreciated, and because team work between the medical attendant and his dental colleague practically does not exist.

I am of the opinion that, where such conditions are an important factor in the health of patients, it is not sufficient for the physician to say: "Go and see your dentist and get your teeth out." The dentist naturally resents such commands and, in some cases, thinks and says: "This is my job to determine." It is the job of neither of you to give commands. In debatable cases the dentist should be given some definite clinical facts as to why such procedure is advisable and, if necessary, a friendly talk over the case should take place. There must, in the future, be closer cooperation between these two allied branches of medicine. After all, it is the well-being of our patients which we have at heart.

As regards treatment, early conditions of periodontitis can be and are successfully treated. Quite definitely, if the disease is advanced with evidence of the alveolar support being involved with signs of deep pocketing, removal is the only sound advice which can be given. If treatment in such cases is, and can only be, of temporary use, without doing away with the factor which slowly but surely is causing damage, then such treatment is not advisable.

I have seen loose teeth actually wired together for mutual support.

Teeth with definite apical infection should be removed. In all disease in which important structures such as eye, ear, heart, kidneys, pancreas are affected and in which endocrine upset is present, devitalized teeth should be extracted.

I am of the opinion that wholesale extractions are inadvisable. Apart from shock, the effect and degree of which is not always appreciated, in certain types of disease the risk of opening large septic areas is very great; tragedies following such injudicious operations are known to most of us.

Conditions Depending on Dental Sepsis.

Let us consider a few of the conditions found depending primarily on dental sepsis.

Respiratory System.

In the respiratory system the conditions include tonsillitis, pharyngitis, sinusitis, post-nasal catarrh, laryngitis and by direct extension chronic bronchitis; further, a class of cases resembling tuberculosis in which no tubercle bacilli can be demonstrated.

"Open" sepsis is a most important factor in the production of bronchopneumonia from direct extension and also probably through the blood stream.

In periapical infection of teeth in relationship with the antrum there often is direct extension giving rise to a quiet antritis, a condition of which the patient is quite unaware. It produces a polypoid degeneration of the antral mucous membrane and bacteriologically yields a copious streptococcal culture. These lesions often cause no discharge into the nasal cavity and are extremely difficult to detect by illumination, but are revealed by X rays. Such a condition can be present for years without being suspected, and is one of the pitfalls in the detection of focal sepsis.

Two cases of asthma only have been met with in which the patients were apparently sensitized to apical infection.

One woman, after all other treatment failed, was dramatically relieved within forty-eight hours by the removal of one tooth. She was warned about one other tooth which was devitalized. Later she had a recurrence of her asthma which was relieved by extraction. She has now been free for some five years.

Circulatory System.

In the circulatory system the conditions include acute and chronic septicæmia, infective endocarditis, arteriosclerosis, phlebitis, myocarditis and various affections of the cardiac mechanism, syndrome known as toxæmia.

In toxæmia we find a very large class of conditions in adults who have been failing in health for a considerable time. The patients are often of a pale yellowish hue, with loss of energy and initiative, clouding of memory and mental power, marked inability to concentrate, general irritability often becoming neurasthenic. Great is the change in such cases when their overburden of dental sepsis is removed.

I know only one firm in New South Wales which has its responsible officers periodically examined, so that avoidable disease can be detected early; that firm is the Japanese company Mitsui Buissan Kaisha, Limited. Many times have I seen men in responsible positions failing in their business acumen from such avoidable conditions. If other large firms and companies had a periodical survey made of their "key men" it would be money well spent.

This condition was well seen in many returned soldiers suffering from so-called shell shock. Many of them were men with wonderful records, whose nerve had given way after exposure to stress and strain with some perhaps slight illness intervening. After the war was over some of these men were quite unable to regain their nervous stability, owing often to an overburden of sepsis.

An officer in the Air Force with a fine record in France, finally falling into the English Channel, returned to this country in such a nervous state that he could not be induced to get into a motor car. He was quite unable to work or settle down and he spent some two years in the country with poor results. His inability to stabilize himself on the normal line of life was due to the overburden of several gold-capped septic teeth. When these were removed, the result was almost dramatic. He is now a well known professional man in Sydney.

Another ex-officer of the Flying Corps was induced to submit himself for examination with difficulty, as he was, as he termed it, "sick of doctors". His overburden was one premolar tooth with apical infection causing a quiet antritis. Removal of the tooth followed by a radical antrum operation quickly relieved his overburden and he has since been flying his own aeroplane.

In the production of arteriosclerosis oral sepsis is a most important factor. No patient with such a condition should be allowed to carry such an overburden. In toxic myocarditis the blood pressure is frequently low. These patients require careful handling; removal of large numbers of teeth at one sitting is extremely dangerous, from shock and "flooding" of their system by opening up too great an area of sepsis. One of the great dangers is thrombosis.

In one very marked case advice was tended that not more than two teeth should be removed at one sitting. It was ignored. A wholesale extraction was carried out, the result being that within twenty-four hours the patient was hemiplegic from a cerebral thrombosis.

The following is the history of a patient who suffered from phlebitis.

Recently a man, thirty-four years of age, was seen suffering from appendicitis. An inflamed appendix was removed the same day. The wound closed by first intention. Two days later phlebitis in the internal saphenous vein, left leg, developed. This appeared to subside in about ten days and the patient was allowed to go home. Within twenty-four hours he had to be returned to hospital with involvement of the deep veins of the calf and popliteal space. After the acute condition had subsided and pain in leg ceased, a tooth with apical infection was removed. Within eight hours there was a marked reaction in the leg with recrudescence of pain. The culture from the apex of this tooth gave a copious growth of streptococci.

Septic complications arising in clean operation cases in which the wound heals by first intention are often traceable to oral sepsis. Such a case was recently seen at the Sydney Hospital.

In this instance the operation was for the cure of an inguinal hernia in a man over fifty years. The wound healed by first intention. A few days after operation the patient developed sudden acute pain in his chest. The onset of this was similar to that of pulmonary embolism and it was thought that it was really a case of pulmonary thrombosis. The man had a very septic mouth and this was the only focus found.

In cases of infective endocarditis it is unwise to remove teeth with apical sepsis.

It is very interesting to note the dental history of many of the cases of coronary thrombosis in middle-aged and late middle-aged men. Very often actual extensive dental disease both open and closed is found. Sometimes patients who may have lost most of their teeth, give a long history of dental sepsis which has been a most important factor in bringing about their preliminary coronary disease.

Arthritis.

In arthritis cases dental sepsis is of prime importance. As an example of acute infective arthritis the following case is of interest and was fought out in the Compensation Court.

A man, whilst working, felt a slight pain in region of his right hip. He carried on and over the week-end worked on a car, still with occasional pain in hip region. On Monday he was at work. The pain increased, causing him to stop work. Pain increased until he was finally admitted into hospital with an acute arthritis of the hip joint for which no causation could be found. So acute did this condition become, that an incision was made as pus was suspected; finally he was discharged relieved. Later he was admitted to hospital under my care, at that time with acute agony in the hip joint on being moved. X ray examination revealed an acute arthritic condition. A search was made for a focus and immediately, by X rays, a quiet antrum was found. After operation pain subsided rapidly and the patient was discharged with an ankylosed hip joint.

I was unable to prove it, but feel quite sure that this "quiet antrum" resulted from extension from a premolar tooth which had recently been extracted.

Digestive Systems.

In regard to diseases of the digestive system, there is in open sepsis quite often seen a condition of fermentative dyspepsia from long continued ingestion of the products of such sepsis, with its accompanying sequelæ of distressing symptoms. In duodenal and gastric ulcers, oral sepsis is a most important factor; especially important is the connexion of such ulcers with apical infection. Many medical men are not seized with its prime importance. It is curious that American clinics insist upon the removal of all devitalized teeth in all such cases as part of the treatment.

Eye Conditions.

In diseases of the eye absorption from dental sepsis plays a very important rôle in the causation of iritis, episcleritis, corneal ulcer and retinal hæmorrhage. What ophthalmologist would now proceed to treat a non-syphilitic case of iritis without immediately looking for and eliminating any source of sepsis. In such cases teeth with infective periapical conditions are usually the primary source. Let me illustrate the difficulty of such cases.

A patient with retinal hæmorrhage was referred to me by an ophthalmic surgeon for report. This man, in the fifties, suffered from moderate thickening of his arteries. The systolic blood pressure was about 140 millimetres of mercury. There was no demonstrable kidney disease. The patient still retained all his teeth with gums intact. Four teeth were obviously devitalized. X ray examination revealed two lower molars with apical trouble; in the other two there was no demonstrable disease. The recommendation was, that in view of the serious menace of blindness the four devitalized teeth be removed. The man's dental advisor vigorously argued against removal of the two teeth in which no apical infection could be shown. The infected molars were removed, with rapid recovery of the eye condition. Some twelve months later the patient was again referred for further hæmorrhage. A consultation rapidly convinced my dental colleague that if he wished to save his patient from possible blindness he must extract the teeth. This was done with most beneficial results. So far there is no recrudescence of the trouble, but doubtless should the man suffer in the future from apical infection in other teeth he will exhibit similar symptoms.

Let me quote to you the following case of ocular paralysis which came under observation.

A lady woke and was horrified to find that she was suffering from squint. I saw her, and after examination came to the conclusion that the cause was probably toxic, dental in origin. The teeth remaining in the mouth appeared normal, one only being filled, X ray examination revealed nothing. Sinuses were examined by an eminent ear, nose and throat specialist, the most careful research failed to find any focus. The filling in the tooth was removed; there was response almost immediately. Drainage of an infected pulp cavity was established. Forthwith the tooth was extracted and within a few days the squint disappeared.

Other Conditions.

Lack of time precludes anything but the briefest reference to the importance of such an overburden in obstetrics, to the gradual onset of chronic nephritic conditions, to its influence in the causation of diabetes and renal glycosuria and in the disturbances of the endocrine system and in a host of other conditions.

It is the most prolific cause of invalidism in adult life, causing a very serious drain on national resources. The teaching of the importance of the influence of such conditions to students with its bearing on the causation of systemic disease is sadly neglected in the present day curriculum. Students, ready to sit for their final examination in medicine, come into my wards at the Sydney Hospital totally or practically totally ignorant of this subject. I am of the opinion that instruction should be given to all medical students in this very important subject by a member of the dental profession.

Acknowledgements

I should like to thank Dr. George Dansey for his great assistance in preparing slides and to Dr. Haggett for kindly offering me slides from his collection, some of which you have seen this evening.

THE RELATIVE IMPORTANCE OF DENTAL PERIAPICAL INFECTIONS.[1]

By F. G. HARDWICK, B.D.S., D.D.Sc. (Sydney).

A BRIEF summary of dental methods in current usage must be of interest and instruction to those

[1] Read at a meeting of the New South Wales Branch of the British Medical Association on October 27, 1932.

unacquainted with this very necessary foundation to a working knowledge of dental periapical infections.

Caries is the disease most likely to affect the tooth, and, if unchecked, to lead to infection and death of the pulp.

For our purpose we can discuss its progress in four stages: The first, a cavity walled off from the pulp by healthy dentine; the second, the cavity exposes the vital pulp; the third, death of the infected pulp has followed; the fourth, infection involves the periapical area. In stages three and four it is manifest that the tooth is a menace to health. It is simply a tube by which infection can readily pass to the deep tissues through the mucous membrane or first line of bodily defence.

The dentist may be called upon to treat the tooth in any of these stages.

In stage one an appropriate filling renders the tooth again useful with a vital pulp. In stage two, although the pulp which is exposed is still vital, nevertheless in nearly all cases it must be removed. Otherwise death and degeneration follow, leading sooner or later to periapical infection. The steps involved in its removal demand strict surgical asepsis and antisepsis. The root canal is then filled with some material with which is usually incorporated some antiseptic. The cavity is then filled with any of the usual materials. Sometimes to gain anchorage, the filling will be held in by a small metal post or wire cemented into the lower portion of the canal. So now we have interposed between the septic oral cavity and the deep tissues, the metal filling, the gold wire or post, some cement and some antiseptic root canal filling material. If a large part of the tooth's crown has been destroyed then the metal wire or post will hold a piece of porcelain shaped like the lost crown. It is then often called a pivot. The point to be stressed is that a pivot does not differ fundamentally from any filling held in by a piece of wire.

In stage three, where the pulp is dead and infected: the putrescent material is removed with a liberal use of germicides. The canals are thoroughly cleansed with strong drugs, such as a 50% solution of sulphuric acid, metallic sodium and potassium, pure carbolic acid, creosote *et cetera*, due care always being exercised not to force any of these strong chemicals through the apical foramen. After thorough sterilization the canal is filled as already described.

In stage four, where the periapical tissues are involved, the treatment varies somewhat according to the clinical condition. Generally drainage is necessary till acute symptoms subside. The subsequent treatment follows much the same as stage three, the canal being finally filled.

Let us consider the rationale of the procedures just outlined:

Stage one requires no comment.

Stage two, which involves removal of the pulp, requires some further knowledge. Does the tooth after the removal of its pulp become dead? Is it rendered a foreign body and tend to become necrotic and act as an irritant? The answer is "No". When a tooth loses its pulp, it has lost a portion of its blood supply only. It should not be referred to as a dead tooth, but as a pulpless one. Livingston[1] has shown that the periodontal membrane and the periapical space have three independent sources of supply, branches from the artery to the pulp, independent vessels entering parallel to these in the periapical space, branches from vessels only entering the membrane nearer the surface. There may be as many as five small vessels passing upwards to the main fibres of the periodontal membrane. Goadby[2] points out that when the periodontal membrane is young and thick blood vessels pass through the membrane about midway between the alveolus and cementum between the various fibrous bands, no vessels enter the cementum, which derives its nourishment from a capillary network.

As age progresses and the incremental development of the cemental planes progresses, the blood vessels are gradually pushed outwards towards the alveolar bone and may ultimately come to lie in small channels on the actual surface of the bone itself. As age advances, the cemental covering of the tooth roots increases in thickness, the blood vessels in the tooth sockets become diminished.

After removal of the pulp and filling as outlined, we have the central canal of the tooth blocked against infection from the mouth by different substances, including antiseptics, and the periphery of the tooth surrounded by vital tissue, the cementum, a part of the tooth, receiving its blood supply from several sources. Taking it for granted that careful dental technique has been observed and that the periodontal membrane is healthy, it is difficult to conceive how such a tooth can become a source of infection. True, it has lost a part of its blood supply, and in that respect is of less resistance than a normal tooth. The above remarks apply to stages three and four, assuming that the infection has by treatment been eliminated. The tests of its elimination are cessation of clinical symptoms, such as pain, discharge, healing of fistulæ *et cetera*, and radiographically, by the disappearance of translucent areas by the regeneration of bone. Black,[3] in a paper read before the Sixth Australian Dental Congress, mentions a previous paper[4] of his dealing with fifty-one cases in which dead pulps had been removed, with no periapical destruction and in which root fillings were made from one to thirty-two years previous to the making of Röntgenograms. Of these cases 94% appeared to be in perfect condition when the recent examination was made.

The following lantern slides will demonstrate successful treatment of periapical infection.[1]

Figure IA is from a case of Dr. E. O. Watson in which infection and death of the pulp occurred under a cement filling in a right upper central, leading to very extensive periapical infection. Dr. Watson treated the infection with dichloramine T.

Regeneration of bone is seen in the second picture (Figure IB). The root filling will be noticed slightly protruding through the apex. This is non-irritating and does not influence healing. The skiagram was taken two and a half years after treatment.

Figure IIA is from a case of Mr. E. V. Hawkins obtained through courtesy of Dr. Dansey. The

[1] At this stage Dr. Hardwick showed many lantern slides. Some of these are reproduced on a special supplement.

tooth was an upper left lateral; there was a dead nerve under a metal filling; extensive periapical infection had occurred. As shown in the second picture (Figure IIB), two years later complete regeneration of bone had occurred.

The following pictures from a case of my own show stages in bone regeneration:

Figure IIIA shows a translucent area at the apex of an upper lateral tooth; some absorption is present and the root is imperfectly filled. (March 25, 1929.) Figure IIIB shows that the apex has been removed and the cavity smeared with bismuth iodoform and paraffin paste. (May 6, 1929.) Figure IVA, taken twenty-one days later, shows that the paste has disappeared; regeneration is commencing. Figure IVB, taken eight weeks later, shows the cavity filling in rapidly. Fifteen lantern slides forming a fine series from cases treated by Mr. L. S. Beckett, but not here reproduced, also demonstrate regeneration of bone after treatment.

It is interesting to notice the pivot teeth in the above series in view of their unenviable reputation by those with a scanty knowledge of this subject. One cannot but be impressed with the close association of imperfectly filled roots and periapical infection.

When these treated teeth show evidence of infection on radiographic examination, what is the source of such infection? There are two possible sources of such infection. In dealing with stage four cavities, when the periapical tissues have become infected from the canal and primarily from the mouth, whilst we can mechanically block further ingress from the mouth and can sterilize the root canal with germicides, we are forced to rely on immunological response as well by the patient to eliminate the periapical infection. It is an infection of bone, and follows the rules of other bone infections. All signs and symptoms may subside and yet organisms be occluded in sclerosed tissue, remaining latent till a subsequent fall in resistance by the patient permits the formation of a focus of infection. It must be remembered that we have no evidence that organisms will pass through tooth substance. What evidence we have supports the contrary. For example, Henry and Doyle,[5] conducting certain experiments in the laboratories of Bloomingdale Hospital towards discovering whether or not the outside of an extracted tooth could be sterilized without destroying the organisms which might be present in the root canal, inoculated the root canal with streptococci, staphylococci and *Bacillus coli communis*. The apical foramen was sealed and the tooth immersed in alcohol, which was then burnt off. This was repeated at least five times. The tooth was then placed in broth and incubated for at least three days. No growth was obtained in the media, and yet on examination the organisms in the canal were vital and grew readily. Reverting back to treatment: in the second place it is quite possible for our treatment simply to assist the body to wall off the infection, the cessation of symptoms simulating a cure, but the condition actually becoming chronic. Cases similar to the above constitute a primary dental focus of infection, capable of becoming a menace to health, and the elimination of which offers every hope of a successful cure. The focus is one due to direct infection from without through the tooth as a portal.

The second means by which a dental focus can be established is by the localization of organisms in a bacteriæmia. Personally, I believe that this mode of infection is by no means rare.

I admit it is extremely difficult to prove by direct evidence, but would submit that circumstantial evidence is exceptionally strong.

When we remember that anatomically the teeth are joints, and like the movable joints, are liable to a good deal of accidental stress and strain, we can readily conceive of the possibility of their becoming infected, just like these movable joints, from some distant source or focus by hæmatogenous transfer. We have already seen that a healthy tooth from which the pulp has been removed, though not a dead tooth, is yet one of lowered resistance owing to a partial diminution of its blood supply; that with increasing years with thickening of cementum, the blood supply is still further diminished; that a treated tooth which has been infected periapically, granted that the infection has been removed, nevertheless must contain a certain amount of periapical scar tissue; that an imperfectly filled root must form a nidus.

Under such conditions these teeth must be just as liable as, or even more liable than, the movable joints, to secondary infection.

As evidence of a more direct nature can be mentioned the following: Not rarely in practice we come across a tooth perfectly sound, with not a sign of caries, yet containing a dead pulp and periapical infection. Obviously, the infection has been derived from some source quite apart from the actual tooth, in other words it must be hæmatogenous. This is mentioned by Blair and Ivy[6] in their text book "Essentials of Oral Surgery".

Again, there is a condition of teeth known as exostosis or hypercementosis, where the root end has become bulbous owing to the disposition of additional cementum by the periodontal membrane responding to irritation. According to Colyer[7] by far the larger number of cases arise from infection *viâ* the pulp canal. In the case of the specimens shown the infection is doubtless a primary one following infection of the pulp from the mouth.

Why the reaction in some cases and not in others should be manifested by condensing osteitis or by its ally exostosis instead of by the well known translucent area, does not concern us here. The point to be emphasised is that exostosis is due to infection.

I should now like to direct your attention to some slides from patients who exhibit this form of reaction. For some of the records I have to thank Dr. George Dansey.

Figure V shows two crowned lower bicuspids. The roots are imperfectly filled. Marked exostosis, and likewise condensing osteitis, are present. Figure VI shows a crowned molar and first bicuspid upper carrying a bridge, also a vital canine, all showing marked exostosis. Figure VII shows a first bicuspid vital and exostosed.

Whilst several pulpless teeth exhibit exostosis, so do some of the vital teeth. These vital teeth can only have acquired the infection extradentally, similarly to joints. Finally, in a case recorded by

R. V. Graham[8] of a severe grade of osteoarthritis of the hip, radiographs of the teeth showed a molar perfectly sound and vital, but exhibiting periapically a marked condensing osteitis. From this tooth, organisms were obtained which survived in the whole blood technique. Here again we must fall back on hæmatogenous transfer to account for this infection. True, the resistance to streptococcal infection of these patients must have been low. The vital teeth were not responsible for this lowered resistance, because they were not primary foci, but, having through infection thus become secondary foci, would of course have to be considered in treatment. The same remarks are applicable to pulpless teeth infected in this manner.

As long ago as 1920 Park and Williams,[10] dealing with selective localization and toxin affinity, drew attention to the definite tendencies of certain streptococci to become localized at the roots of teeth or in the joints or in the heart valves.

A secondary focus of infection, such as I have outlined, can act as a potential reservoir for reinfection, but, unlike a primary focus, does not act as a portal of entry as well. The eradication of a primary focus, by eliminating the reservoir and also closing the portal, offers every hope for a complete cure. The eradication of a secondary focus eliminates a reservoir, but does not close the portal. The patient may, and often does, benefit temporarily, only to relapse a few months or so later on. This I believe is the explanation of some of our clinical disappointments. Unfortunately, when searching for the cause of an illness, in the case of pulpless teeth, we cannot tell which are primary and which secondary foci. Therefore the necessity of not considering the removal of teeth the end of the search. It may be only the beginning.

Summary.

1. The dental treatment of infected teeth has been briefly outlined.
2. The difference between a dead and a pulpless tooth has been stressed.
3. Many pulpless teeth after treatment, as far as present methods of observation permit us to say, remain healthy for many years.
4. A pivot tooth is a pulpless tooth, and the same laws are applicable to it as any other pulpless tooth.
5. Age and resistance govern the life of pulpless teeth.
6. Dental foci of infection may be primary or secondary.
7. The eradication of a primary focus offers every hope of a successful cure.
8. The eradication of a secondary focus, while an important step towards a cure, yet does not remove the cause.
9. Owing to the selective localization of Park and Williams, for purposes of vaccine therapy, teeth offer a ready means of obtaining the probable causative organism in systemic disease of the nature mentioned above.
10. As the dental focus may be secondary in contrast to primary, treatment should not terminate simply with the removal of the teeth.
11. The importance of the radiograph in a periodical examination of treated teeth and in the treatment of teeth is self-evident.

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A MEDICAL SURVEY OF THE ISLAND OF NAURU.

By ALAN M. B. GRANT, M.B., B.S. (Sydney),
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THIS is an account of a medical survey of Nauru, and includes my own work on hookworm, filariasis, dysentery and obstetrics, together with a review of statistics[1] for the past five years (1927-1932). It is hoped to put down here a faithful picture of what medicine transpires on this little known island.

History.

Nauru was discovered in 1798 by Captain Fearn, an Englishman, and called by him Pleasant Island. On October 1, 1888, the German warship *Eber* arrived, on the following day the island was proclaimed German territory, and the native name Nauru was adopted; the island remained a German colony until occupied by the Australian Forces in 1914. Under the terms of the Treaty of Versailles a mandate, dated December, 1920, for the government of the island was conferred upon His Britannic Majesty.

Geography.

The island is situated in longitude 167° east and approximately 39 statute miles south of the equator. Its area is approximately 5,400 acres. In circumference it is about 11 miles. It lies 2,250 miles from Sydney. In shape the island resembles a man's felt hat, a small area corresponding to the dent in the crown being occupied by a central lagoon in which the water is about seven feet above sea level. The whole island is surrounded by a coral reef about 20 yards wide, which at low tide is exposed; from the edge of the reef there is a fall at an extremely acute angle into the deep waters of the Pacific. A narrow sandy beach about ten yards wide lies inside the reef, then a flat stretch of coconut wooded land analogous to the brim of the hat; this belt ranges from 200 to 800 yards in width, and runs right round the island. On its landward side coral cliffs rise up to a height of about 30 to 60 feet. At the top of the cliffs is a plateau which contains the valuable phosphate deposits mined by the British Phosphate Commission.

Climate.

The island is kept cool by the breeze of the south-east trade winds. Bad weather comes mostly from the west. At the first sign of a westerly squall all

vessels must slip the buoy and put to sea until it has subsided. The particulars of the rainfall and humidity for the past five years are as shown in Table I.

TABLE I.

Year.	Rainfall in Inches.	Average Humidity.	
		9 a.m.	9 p.m.
1927	46·41	70·0%	79·0%
1928	69·10	70·0%	81·0%
1929	93·53	73·0%	80·0%
1930	181·32	76·6%	88·0%
1931	77·97	74·0%	85·0%

The average rainfall during the past eleven years was 85·83 inches. Except for the continuous clamminess from early morn until about 4 p.m. the climate is not unpleasant.

Filaria.

There are about 1,500 Nauruans, and of these the blood of 354 was examined. The proportion seen was arranged in such a way that at least 20% of each of the fourteen native districts on the island was represented.

Technique.—To each individual two slides were allotted. A small circle of vaseline with the diameter of a coverslip was placed on all the slides in one row, and in the centre one drop of 3% sodium citrate solution. At 9 p.m. the finger was cleaned with ether and pricked. One large drop of blood was directed on to the drop of citrate solution, and four large drops on to a perfectly clean slide. The citrated-blood specimens were covered with a coverslip and examined immediately with the low power, and the presence or absence of microfilariæ was recorded.

The next morning the thick blood films were dehæmoglobinized by placing them in distilled water to which had been added aqueous fuchsin (one drop to 150 cubic centimetres). In one hour they were taken out and examined for microfilariæ. At this second examination only one in 25 of those found to be "negative" the night before was positive.

Results.—Out of the 354 specimens examined 36·1% were positive. The filarial embryos present were identified from slides stained to be the *Microfilaria (Wuchereria) bancrofti*. We have considered the possibility of the embryos being Brug's *Microfilaria malayi*.

Of previously positive and heavily infected persons examined at 9 p.m. twenty-five were investigated at midday. None of these showed any microfilariæ. This result is interesting in view of the fact that the *Microfilaria bancrofti* is non-periodic on some islands, such as Tonga and Fiji.[3]

Clinical Features.—Nineteen people gave a history of having had elephantiasis once. Of these 47% had microfilariasis.

On the whole island there are now twenty-one natives suffering with elephantiasis, the scrotum or legs being affected mostly. In only one person is the arm affected. Films were made from all of these, and 19·04% had microfilariasis. In Fiji[4] Manson-Bahr records that 38·2% of those with this disease had the worms in their blood.

At least one person per weeks presents himself with an abscess of mysterious origin. Two abscesses occurred in the *psoas major* muscle on the left side, and pointed inside the left anterior superior iliac spine. One was treated by extraperitoneal approach and drainage and the patient recovered. One patient is still in hospital, unoperated on. An abscess in the rectus sheath or posterior compartment of the thigh is not uncommon. No adult filariæ have been recovered from these patients; not all have shown microfilariasis; but there seems no other explanation for them. Most of them have an eosinophilia and neutrophile leucocytosis. Adenitis and hydrocele are common. One case of synovitis recently occurred in a patient at rest in bed with filarial fever. We have not seen a case of chyluria.

Carrier of Microfilariæ.—Crushed specimens of *Culex fatigans* showed living filarial embryos. This is the carrier of filaria on the island.

Malaria.

There is no endemic malaria, nor are there any anopheline mosquitoes.

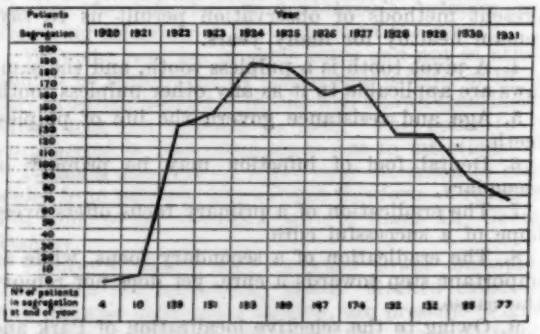
Leprosy.

In THE MEDICAL JOURNAL OF AUSTRALIA in 1930 Sir Leonard Rogers[5] wrote:

> It is for the individual states to decide how far they can carry out the new methods of prophylaxis, but I am convinced that the nearer they can get to the ideal plan, which is proving so successful at Nauru, the more rapidly will they succeed in solving the problem with regard to the eradication of leprosy from their country.

Prior to June, 1920, there was no leprosy on this island. Its origin is uncertain. It is variously attributed to a woman who arrived in 1912 from the Gilbert Islands, and a Caroline Islander who was diagnosed as a leper while in hospital at Nauru in 1912 and deported.[6]

From 1920 the disease progressed rapidly, as shown by the accompanying graph.



GRAPH I.
Showing incidence of leprosy.

Clinical Features.—The leprosy here is classified into five clinical groups: (i) Nodular; (ii) maculo-anæsthetic; (iii) mixed; (iv) patients bacteriologically "negative", on parole, and attending leper out-

patient clinic; (v) suspects. Of patients now in segregation 9·7% have nodular leprosy and 6·8% have the mixed type.

Diagnosis.—Diagnosis is accomplished in the usual manner by nasal smears, making of clip-smears from the lesion, clinical examination, and latterly by the leprolin test of P. Bargehr.[7]

Treatment.—All definite infectious lepers are first isolated in the leper station and treated with various combinations of "Alepol", potassium iodide, and the ethyl esters of hydnocarpus oil (made on the island by the cold process from *Oleum hydnocarpi* Wightiana).

Release on Parole.—When bacteriologically "negative" at two examinations at intervals of two months, patients with mild maculo-anæsthetic leprosy are released on parole, transferred outside to their kin, and attend twice a week at the leper out-patient department for injections and inspection. This is according to the opinion and teaching of Sir Leonard Rogers.[8]

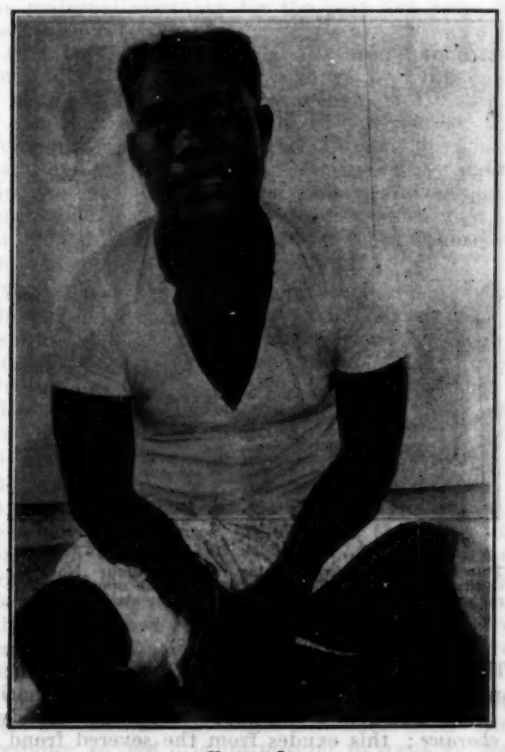


FIGURE I.

Maculo-anæsthetic leprosy. The macule is visible under the right eye and the facial nerve is paralysed on the same side. The area of the macule is anæsthetic, analgesic, and the discrimination between heat and cold is impaired.

Public Health.

Every six weeks each Nauruan on the island is medically examined, more especially for evidence of leprosy; if sick, he is transferred to hospital.

Health circulars on infant care and tuberculosis printed in the Nauruan language are given to the people.

Disinfection of Houses.—Each native house is carefully disinfected once a month with "Izal"; a portable spray pump is used.

Sleeping Mats.—All sleeping mats are exposed to the sun daily in addition to being disinfected once a month.

Sewerage System.—For Europeans sewerage system is mostly the flushing method, whence the sewage is conveyed over the reef, or into an underground cistern packed with stones, from which it is absorbed or diffused by the action of the tides. The "Kaustine" method has been abandoned. The villagers use deep pits, over which are placed cement slabs. They are kept in a sanitary condition by the use of sand, and are subsequently filled in.

Mosquitoes.—The mosquitoes present on the island are: *Culex fatigans* (Wied.), *Culex quinquefasciatus*, *Stegomyia fasciata*, *Aedes argenteus*. Old European inhabitants on this island have stated that the mosquito *Stegomyia fasciata* came to Nauru with a recruitment of Kanaka labour from the Marshall Group about twenty years ago.

Every week all wells and stagnant pools are oiled. The fish, ibija, has been put in some of the inland lagoons; it is caught very young at the edge of the reef in sea water, and transferred in big shells to these lagoons, where experience has shown that it survives. The ibija thrives on mosquito larvæ.

Quarantine.—All ships are boarded and the usual inspection is carried out. On the island there is a permanent quarantine station, designed especially for the reception of Chinese coolies when a new recruitment arrives; after ten days they are released; during this time a variety of chest complaints and beri beri are often found.

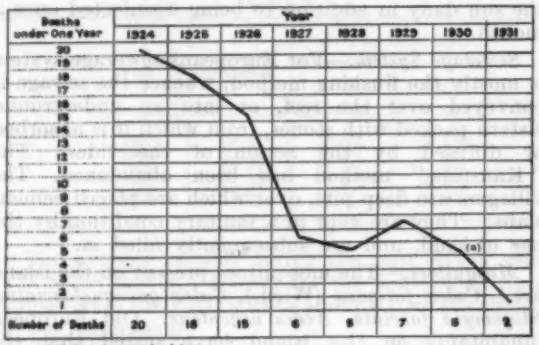
Baby Clinics.—Baby health centres have been established at convenient places in five of the native districts, and all infants under two years of age are inspected and weighed once per week by the hospital matron. At these clinics an emulsion first introduced by Dr. George Bray[9] is used; it consists of a mixture of cod liver oil and yeast obtained from "toddy" (*ekarawe*). The emulsion supplies the children with vitamins *A*, *B* and *D*. There was formerly a high mortality from infantile beri beri (30%), but this has fallen off according to the figures shown on the graph. When the emulsion was not used during a part of 1929 it will be seen how the mortality rose. The infantile mortality now compares favourably with that of Australia, according to Dame Janet Campbell's report.[10]

Epidemic Diseases.—Influenza breaks out about once *per annum*. The first severe outbreak occurred in 1920, when 331 Nauruans died. Influenza has become progressively less severe and during the last outbreak (May, 1932), only two died.

Venereal Disease.—In 1927 there were nineteen notifications of venereal disease, but since then there has been a progressive diminution, so that in 1931 no cases were notified and there have been none so far this year.

Deaths.—The average number of deaths amongst Nauruans for the last five years has been twenty-five *per annum*. They have been due to a multiplicity

of causes, amongst which it is obvious that dysentery is decreasing and tuberculosis increasing, both pulmonary and surgical.



GRAPH II.

Showing infantile mortality. Note how the mortality rose in 1929 when the use of emulsion was suspended for some time.

Poliomyelitis.

At present there are fourteen natives on the island with residual palsies, following an epidemic of infantile paralysis in 1910. There had been none before that year and there has been none since. There is no written record of this epidemic. Fifty-seven people were affected, according to the statement of the head chief, Detudamo,[11] an educated and a reliable man; of these, twenty-one died in a short time from the malady, and twenty-two have died of other causes since. In only one case is the upper extremity affected. Except in two or three cases where both lower extremities are affected, all the remaining people walk well without apparatus.

Dysentery.

In 1927 seventeen cases of bacillary dysentery were notified and one of amœbic dysentery; since then there has been a great fall in its incidence. During the past year bacillary dysentery has been found *post mortem* only, and that in two children, and the only evidence of amœbic dysentery was one case of acute hepatitis which quickly subsided with emetine treatment.

Flagellates are commonly profuse in the many cases of infantile diarrhœa seen.

All diarrhœic stools are now subject to cyto-diagnosis, cultured with the aid of "Soloid" products, and organisms tested out against specific antisera according to the method of Manson-Bahr.[12]

Hookworm.

The incidence of hookworm has been minimal since 1924. There is no record of it in the last quinquennium. A hookworm survey of the island was commenced. Eighty stools were examined, and of these none showed worms or hookworm ova. The survey was therefore closed. The methods used were diagnosis by vermifuge, *plus* diagnosis by Barber's glycerine–saturated salt method.[13]

Tuberculosis.

Table II shows the deaths due to tuberculosis during the past five years and also the total mortality.

TABLE II.

Year.	Pulmonary Tuberculosis.	Other Tuberculosis.	Total Deaths.[1]
1927	2	2	23
1928	1	3	18
1929	3	2	26
1930	1	2	29
1931	8	6	24

[1] Note that more than half the deaths for last year were due to tuberculosis.

The diagnosis of pulmonary tuberculosis is made difficult in some cases on this island as the X ray plant is not strong enough to take a good chest plate in a fraction of a second. All other means of diagnosis are fully exploited.

An investigation has recently been commenced into the incidence, if any, of the pneumonomycoses.

FIGURE II.

This type of case is becoming more common. Note the enlarged cervical glands, the gibbus in the upper thoracic region, and general wasting. This patient also has ascites.

Vitamin Deficiency.

The former marked deficiency of vitamin *B* in Nauruan infants has been alluded to. The native on adult diet gets a full supply from his "toddy" or *ekarawe*; this exudes from the severed frond of a coconut tree and is collected twice in every twenty-four hours by means of a bottle hung in a suitable position; about one pint is available on each occasion. It has the following character:

	Fresh.	Fermented
Specific gravity at 60° F. ..	1·0622	1·0032
Total solids (percentage)	15·26	3·46
Protein nitrogen	0·14	—
Ash (percentage)	0·26	0·31
Invert sugar	14·21	0·22
Acidity as acetic (percentage) ..	0·27	0·14
Acidity as lactic (percentage) ..		0·80
Alcohol (percentage)		5·02

In addition there are present:

1. *Saccharomyces ellipsoideus.*
2. *Saccharomyces cerivisiæ.*
3. Butyric acid bacteria.
4. Lactic acid bacteria.

Its use after fermentation is forbidden by law.

Beri Beri.—Admissions to the hospital for beri beri during the past quinquenniad have been as follows:

1927	3
1928	4
1929	1
1930	–
1931	–

Dental caries and *pyorrhœa alveolaris* are common. There is no record of a case of scurvy.

The European feels much less æsthenic and slack if taking proprietary preparations of vitamins.

Obstetrics.

The average number of births per year is sixty. The maternal mortality for the past five years has been absolutely nil.

An ante-natal clinic has recently been inaugurated. Not enough pregnant women have been examined to justify one in giving the average measurements of the Nauruan pelvis and the percentage with deviations from the average. Interspinous, intercristal and external conjugate diameters are mostly from one-half to one centimetre above the maximum measurements given by Johnstone, especially the last one. It is hoped to secure the internal measurements of some pelves subsequently.

Normal Labour.—If a Nauruan woman feels labour pains for longer than four to six hours she comes to hospital thinking that something is wrong. This is in marked contrast to the definition of normal labour given by Tweedy[14] or Johnstone.[15]

The native midwife does not "rush the fundus" when the babe is born, but ties a strap fairly tightly round the abdomen at the lower costal margin.

Weight of Newborn Babe.—The newborn baby is not heavy. Unfortunately the baby clinic has previously not weighed babies until they were one month old. The average weight of all the babies born in the last twelve months when four weeks old was 3·85 kilograms (eight pounds nine ounces). Only two weighed more than 4·95 kilograms (eleven pounds) and four more than 4·5 kilograms (ten pounds).

Complications of Pregnancy, Labour and Puerperium. There has been no systematic ante-natal observation heretofore, so that it is not possible to speak authoritatively on toxæmia of pregnancy. There is no record of eclampsia in the last five years, and only one of *ante partum* hæmorrhage. There is no record of the birth of a monster; there have been only two sets of twins born in the last five years, so that their frequency is nowhere near the accepted figure of about one in 80. Breech births are uncommon; only three are recorded in the last five years. One case of retained placenta has occurred in this five years period and one of *post partum* hæmorrhage. However, this year a patient was confined exhibiting exaggerated lumbo-sacral curve, contracted pelvic inlet, primary inertia, and a posterior position. Mastitis is moderately common. Sapræmia is rare.

Miscellaneous.

This report covers for the most part illnesses of the Nauruans only. There are 141 Europeans, men, women and children, on the island and about 900 Chinese (males)—labourers and mechanics. The Chinese suffer mostly from beri beri, alimentary upsets due to injudicious or over feeding, bronchitis, and, in a comparatively small number of cases, injuries received at work. Hookworm is uncommon. All coolies are carefully examined before leaving China and their living and working conditions on this island are extremely satisfactory.

The health of the white man is excellent.

No tetanus has been seen in the last five years; there is only one horse on the island, and there are no cows.

Typhoid fever is rare.

Other eggs seen during the hookworm survey were those of: (i) *Enterobius vermicularis*, (ii) *Trichuris trichiura.*

Summary.

1. The history, geography, and climate of Nauru are accurately recorded.

2. Filaria is common amongst the natives, 36% being affected; elephantiasis is uncommon.

3. The mosquitoes on the island have been identified, we believe for the first time. There are no anopheline mosquitoes on Nauru.

4. The treatment and management of leprosy on this island have been eminently successful. An account is given. The success was largely due to early diagnosis. The latter was made easy owing to frequent medical inspections of the whole island.

5. An account is given of how infantile beri beri was eradicated.

6. Particulars are given of the only outbreak of poliomyelitis that has ever occurred on the island.

7. The decrease of dysentery and increase of tuberculosis is shown, especially that of surgical tuberculosis.

8. The composition of "toddy" (*ekarawe*) is set down. This is the basis of native diet, together with coconut, coconut milk, rice, fish and cooked birds.

9. Some unusual obstetric features are described, notably the rarity of twins, breech presentations, and monsters, and the small average birth weight of Nauruan infants.

Acknowledgements.

In compiling this paper I beg to acknowledge the valuable suggestions received from: His Honour the Administrator of Nauru (W. A. Newman, Esquire); from Professor Harvey Sutton, of Sydney School of Public Health and Tropical Medicine; and from Dr. G. A. M. Heydon, Parasitologist to the same School.

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Reports of Cases.

A CASE OF BLASTOMYCOTIC MENINGITIS.

By J. G. O'DONOGHUE, M.B., B.S.,
Resident Medical Officer, Saint Vincent's Hospital, Melbourne.

THE following is the report of a case of blastomycotic meningitis treated at Saint Vincent's Hospital, Melbourne. Permission to publish record of the case has been kindly granted by Dr. L. S. Latham, who was in charge of the patient while he was in hospital. To Dr. B. J. Grieve, of the Botanical Department of the Melbourne University, we are indebted for having carried out cultural investigations on certain specimens.

Clinical History.

J.S., aged fifty-seven years, was admitted to hospital on August 25, 1932. His occupation was that of cabinet maker. Three weeks previously he developed severe pains in the head and neck. These gradually became worse, and he commenced to vomit. The vomiting had subsided on admission, but he still complained of very severe occipital headaches.

During the three weeks prior to admission to hospital he had been suffering with a troublesome cough, but he brought up only a small amount of whitish sputum. His appetite had always been good and he was not losing any weight. As a general rule, he had not suffered with severe headaches, and apart from the fact that exertion produced fairly marked dyspnœa, he had always been quite healthy.

On examination he appeared to be a fairly healthy looking man. He lay comfortably in bed and was somewhat pale in appearance.

His teeth were very carious. His tongue had a white coating. His pupils were equal and reacted to light and accommodation. His apex beat was situated in the fifth intercostal space, 10 centimetres (four inches) from the mid-sternal line. There was no cardiac hypertrophy. At the mitral area a soft systolic bruit was heard, but apart from that nothing abnormal was noted. The cardiac rhythm and rate were quite regular.

Examination of the lungs revealed slight impairment of the percussion note over the right upper lobe anteriorly. The breath sounds were also slightly diminished over this area. No adventitious sounds were audible over any area.

In the abdomen the liver dulness was not increased. The kidneys and spleen were not palpable.

Examination of the nervous system revealed no impairment of the cranial nerves. All reflexes were equal and active. The right and left plantar reflexes were both definitely flexor. There was no sign of any neck stiffness or head retraction, and no spasticity in any limb was noted. Kernig's sign was absent.

On admission, the temperature was 37·8° C. (100° F.). The pulse rate was 100 and respirations numbered 22 per minute. The systolic blood pressure was 165 millimetres of mercury. Examination of the urine revealed no abnormality.

On August 27, 1932, lumbar puncture was performed and the cerebro-spinal fluid was found to be under considerably increased pressure; it was perfectly clear.

On examination of the cerebro-spinal fluid one or two polymorphonuclear cells were found, and the white cells numbered eight cells per cubic millimetre. The Nonne Apelt and Pandy tests for globulin gave normal results. The total protein was 33 milligrammes per 100 cubic centimetres. The chloride content was 710 milligrammes per 100 cubic centimetres. Numerous yeast cells were found in the cerebro-spinal fluid and some showed definite evidence of budding. The cerebro-spinal fluid was later sent to the Botanical Department of the Melbourne University, where Dr. Grieve identified the cells as belonging to the blastomycotic group. Meantime the patient continued to run a swinging temperature, the headache increased, and he was becoming gradually more somnolent.

Further investigation included the Wassermann test, which gave no reaction, X ray examination of the chest which revealed a little increased mottling in the right upper lobe, transillumination of the sinuses which revealed no abnormality, and sputum examination which revealed no parasite, but an occasional tubercle bacillus. The patient's condition was gradually becoming worse and the headaches more severe, so that lumbar puncture was repeated on September 16, 1932, with the same result as previously, except that the number of yeast cells had increased. Gradually the patient became semiconscious and death supervened on September 29, 1932.

Post-Mortem Findings.

Autopsy was made by Dr. A. J. Brenan, who also examined the cerebro-spinal fluid.

On examination of the lungs adhesions were found at the left base posteriorly. A section of the left bronchus allowed purulent fluid to escape which, on examination, was found to contain yeast cells. Throughout the lung substance several areas of caseous tuberculosis were found which contained no yeast cells. In the right lung nothing abnormal was found except a few old fibrosed regions about the apex.

The heart was normal, and in the abdomen all the organs appeared normal.

In the brain œdema at the vertical region was generalized. There was some turbid fluid under the meninges and in the ventricles. This fluid contained yeast cells.

The sphenoidal sinus contained some purulent material which produced no yeast cells and no growth of organisms. The frontal sinus and both ears were normal.

The yeast cells found at autopsy possessed similar cultural characteristics to those obtained on lumbar puncture.

Notes on Books, Current Journals and New Appliances.

WORK AT THE MAYO CLINIC.

THERE is no need to introduce to practitioners "The Collected Papers of the Mayo Clinic and Mayo Foundation". Volume XXIII, covering the work for 1931, has appeared.[1] In compiling the work the editors have tried to produce a volume which will be useful to general practitioners, diagnosticians and general surgeons. This volume is up to the standard of those of previous years. Of the 577 papers written in 1931, 93 are reprinted in full, 36 are abridged, 43 are abstracted, and 399 recorded by title only.

[1] "Collected Papers of the Mayo Clinic and the Mayo Foundation", Edited by M. H. Mellish-Wilson and R. M. Hewitt; Volume XXIII, 1931; 1932. Philadelphia and London: W. B. Saunders Company; Melbourne, Brisbane and Christchurch: James Little and Son. Royal 8vo., pp. 1255, with illustrations. Price: 63s. net.

ILLUSTRATIONS TO THE ARTICLE BY Dr. F. G. HARDWICK.

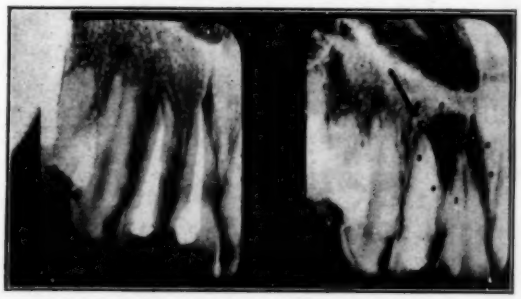

Figure Ib.
Showing regeneration after treatment.

Figure Ia.
Showing very extensive periapical infection.

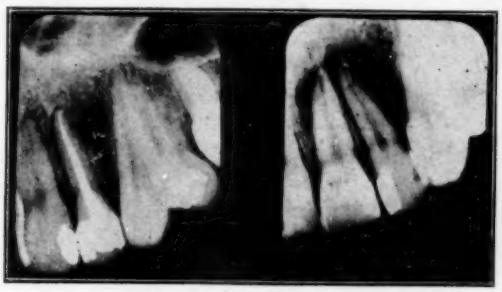

Figure IIb.
Showing condition two years later, bone regenerated.

Figure IIa.
Showing periapical infection.

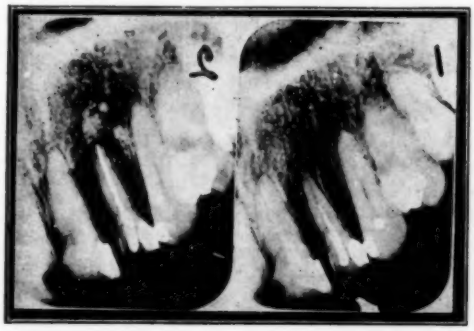

Figure IIIb.
Showing apex removed and cavity smeared with bismuth, iodoform and paraffin paste.

Figure IIIa.
Showing upper lateral translucent area.

Figure IVb.
Showing condition eight weeks later, bone rapidly regenerating.

Figure IVa.
Same case as Figure III, showing condition twenty-one days later.

Figure V.
Showing exostosis of devitalized teeth.

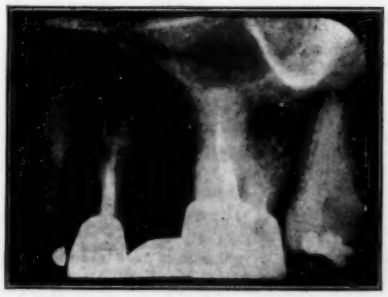

Figure VI.
Showing exostosis of teeth, vital and devitalzed.

Figure VII.
Showing biscuspid vital tooth with exostosis.

The Medical Journal of Australia

SATURDAY, JANUARY 28, 1933.

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THE PUBLIC HEALTH.

In his report for the year 1931, Sir George Newman, Chief Medical Officer of the Ministry of Health of Great Britain, asks several questions: "What are the results of the Public Health Services?" "What are we actually getting?" "What are the results costing in expenditure?" Sir George Newman, in common with every other officer in charge of a health department, tries to answer these questions. When stock is taken of the state of the public health the balance sheet holds lessons, not only for those who have to administer the health acts, but also for those for whose protection they are framed. In other words, departmental medical officers are able to study their activities in retrospect; and the public, if they can be prevailed upon to make the effort, can learn what steps are being taken on their behalf, and should be able to find out how they can help to make the steps effective. Sir George Newman points out that the people of Great Britian are getting national health, "a purchaseable commodity". He goes on to state that this commodity is worth while because it means national survival and national capacity. Sir George Newman, as Chief Medical Officer of the Ministry of Health, is perhaps naturally concerned with the survival, health and capacity of the peoples of the British Isles as a nation. Since no nation, however, can live unto itself, but is merely one unit in the body of nations, dependent in many respects on others and giving of its substance to their sustenance, it is better to think of public health in terms of humanity. The aim of preventive medicine is the conservation of the health of men and women the world over. Therefore, when health reports are studied they should be used first of all as criteria of the state of affairs at home and then as contributions to the solution of the wider problems of preventive medicine.

In Australia each State has its department of health. These departments are staffed by men who are striving to deal with disease as it affects the community and to devise means for its prevention. When the Commonwealth Department of Health was founded its first duties were those of the quarantine services—it had to deal with the Commonwealth as it came into contact with other countries. The activities of the department have been extended in other directions well known to readers of this journal. Australia has to take her place as a unit in the body of nations and has to try in common with other nations to solve health problems, particularly those affecting the countries bordering the Pacific Ocean. Australia has been helped in international health matters by the League of Nations, with its epidemiological bureau at Singapore, and by the Rockefeller Foundation. The Pan-Pacific Health Conferences have enabled Australia to contribute something to the solution of international health problems and the School of Public Health and Tropical Medicine at the University of Sydney is destined to be an important link between Australia and other nations.

It is evident that Australia has the machinery for the purchase of health among its own people and, to a limited extent, among the commonwealth of nations of which it is a member. Its departmental officers, more is the pity, are often hampered in their efforts by the shortsightedness of ministries, by the refusal of politicians to face facts, and by the lack of cooperation of medical practitioners and of others in the community. It is our opinion that the

health authorities of the Commonwealth do not make sufficient effort to tell either the members of the medical profession or the public what they have done, what they are trying to do, why they are trying to do it and what are their objectives. Departmental reports reach too small an audience and are not suitable for public propaganda. The public Press should be utilized much more for this purpose. The public is interested in its own health and can be taught to take an interest in questions of international health. If public interest could be aroused, a discussion of what Sir George Newman calls the cost in expenditure would be useful. People would realize that the present cost of maintenance of physical health and of life was reasonable, and they would resent the cutting down of estimates for health expenditure which seems to be the order of the day.

Current Comment.

STERILIZATION OF THE URINARY TRACT.

NUMEROUS measures have been devised for the sterilization of the urinary tract when it is the site of a bacterial infection. Under suitable conditions many of them are speedily successful; but none can be relied upon to effect a cure consistently and rapidly. A great difficulty is to find a harmless antiseptic that can be administered by mouth in so large a dose that it will make with the urine a powerfully bactericidal solution. Irrigation of the urinary tract usually has to be carried out with solutions of weak bactericidal power; for the employment of strong solutions is accompanied by the risk of injury to the delicate mucous membranes. A further difficulty is that bacteria may not be floating merely in the urinary stream; they may be embedded in the lining membranes of the urinary tract, out of the reach of antiseptic materials. New methods designed for the treatment of persons suffering from urinary infections are usually greeted with scepticism; so many methods have been tried and discarded as valueless. But the new methods at least deserve examination; no one can be content with the old; and it is only by studying methods, which might be good or bad, and trying to evolve better, that investigators (and every medical practitioner can be an investigator of this problem) can hope to discover the ideal.

An extraordinary method of sterilizing the urinary tract was discussed recently by Henry F. Helmholz in a paper that he read before the Section on Pædiatrics at the Eighty-third Annual Session of the American Medical Association.[1] In 1931 Helmholz first drew attention to the value of a so-called ketogenic diet in the treatment of children suffering from abnormalities of the urinary tract and pyuria. The object of a ketogenic diet is the production of ketones and the induction of a state of ketosis; this condition of course is manifested by the appearance of ketones in the urine.

Helmholz points out that in 1920 Nielson administered a cream mixture in the treatment of urinary infections. Nielson ascribed the satisfactory results of this treatment to the increased acidity of the urine. Helmholz believes that urine containing ketones has a bactericidal power independent of its acidity. In his experiments he found that urine containing diacetic acid and having a hydrogen ion concentration of 5·6 or less was generally more or less strongly bactericidal *in vitro*, whereas urine containing no ketones, but made more strongly acid by the administration of ammonium chloride, apparently had no bactericidal properties. Urine containing diacetic acid and having a hydrogen ion concentration higher than 5·7 apparently had no bactericidal properties. From these findings Helmholz concludes that neither acidity nor the presence of ketones alone is capable of sterilizing urine, but that both are necessary. "Acidity in synergy with substances hitherto not yet determined [*sic*] probably accounts for this bactericidal action."

Helmholz has practised the induction of ketosis clinically in the treatment of children suffering from urinary infections. He gives brief histories of three cases in which the treatment was successful after other methods had failed. Two of the children suffered from pyelo-nephritis and pyo-nephrosis; the third had pyelitis and dilatation of the calices of the left kidney and pelvis of the left ureter.

A child weighing 30 kilograms is given 1,500 calories (50 calories per kilogram of body weight) per day. On the first day 30 grammes of protein, 70 grammes of carbohydrate and 120 grammes of fat are given. On the second day the amount of carbohydrate is reduced to 50 grammes, and the amount of fat is correspondingly increased to provide the requisite number of calories. On the third day 30 grammes of carbohydrate are given and the quantity of fat is again increased. The amount of carbohydrate is then decreased by five grammes daily until, on the sixth day, ten grammes only are given; at the same time the quantity of fat is increased so that 1,500 calories are still provided. A state of ketosis should then develop within a few days. The hydrogen ion concentration should be 5·5 or less; if the diet does not increase the acidity to this extent, one to three grammes of ammonium chloride should be given each day. The urine should become sterile in five to ten days after ketosis and the desired degree of acidity have developed.

Helmholz believes that at present the use of the ketogenic diet should be limited to the treatment of children suffering from chronic urinary infection. He regards it as of particular value when there

[1] *The Journal of the American Medical Association*, October 15, 1932.

are abnormalities of the urinary tract, and suggests that it should be useful preparatory to operation.

Lowenburg, in the discussion following the reading of the paper, remarked that children suffering from acute febrile disturbances were apt to pass ketone bodies in the urine. This was true even if the febrile disturbance was due to urinary infection. In such cases, therefore, if ketones had a bactericidal action, the infection should be overcome spontaneously. Lowenburg appears to have overlooked Helmholz's view concerning the necessity for a high degree of acidity of the urine.

Helmholz's method is certainly unusual; it seems almost fantastic at first glance. Others have employed it, however, and have found it valuable in certain instances. It is therefore worthy of some consideration. Possibly a good deal could be learnt from further bacteriological and biochemical experiments *in vitro*. It is perhaps needless to remark that there are dangers associated with ketosis, especially if the patient is poorly nourished or debilitated as a result of chronic disease. It is to just such a debilitated patient that Helmholz would administer the ketogenic diet in preparation for operation. Most surgeons would probably hesitate before adding the strain of ketosis to that of the operation and anæsthetic.

Medical practitioners should make a careful study of the possible complications, and should exhaust all the more generally accepted methods of treatment before contemplating the deliberate induction of a state that is now regarded as harmful or, at least, due to some harmful cause.

CARDIOVASCULAR DISEASE FOLLOWING THYREOTOXICOSIS.

THE occurrence of cardiac failure in the course of Graves's disease is common. There seems little doubt that the disturbances of the cardiac mechanism are due to poisoning by the excess of thyroxin thrown into the circulation by the wild, unruly activity of the thyreoid gland. Certainly the administration of thyreoid extract in large quantities causes tachycardia, and would no doubt cause cardiac dilatation if persisted in; possibly it would also cause auricular fibrillation. In some instances evidence of cardiac failure persists after the treatment of thyreotoxicosis by partial thyreoidectomy, and it becomes obvious that there is permanent cardiac damage. The problem then arises: What is the cause of this organic disease? Very little dealing with the question has appeared in the literature. Doubtless most observers accept the view that the heart or the cardiovascular system has been damaged by the thyreotoxicosis. But it is not unreasonable to suggest that cardiac disease may have preceded the onset of thyreotoxicosis and been aggravated thereby, perhaps that it was due to the same agency that precipitated the extravagant activity of the thyreoid gland. If the ætiology of thyreotoxicosis were known, the elucidation of the problem would be so much the less difficult.

In a recent paper, Francis Bach and Geoffrey Bourne remark that there are three possible causes of this permanent cardiac disease, namely: the prolonged tachycardia; the toxic action of thyroxin directly on the heart muscle, the tachycardia being a subsidiary factor; and the effect of tachycardia or thyreotoxicity or both on "hearts already affected by, or predisposed to, injury by the other known causes of heart failure, such as rheumatism, syphilis, and arteriosclerosis".[1] In an endeavour to discover whether hyperthyreoidism can be "a direct and only cause of permanent organic heart disease", they conducted an investigation of a number of patients who had been successfully treated some years previously—all save one by operation. Each patient was carefully examined clinically and radiographically. An electrocardiogram was taken in each instance. A careful inquiry was made into the history with a view to the discovery of possible factors in the causation of heart disease, such as rheumatic fever, sore throat, chorea, scarlet fever, diphtheria *et cetera*. Of 27 patients, 19 had normal hearts, four had enlarged hearts associated with some obvious cause, and four had enlarged hearts without obvious cause. Two of the patients said to be suffering from heart disease with obvious cause were rheumatic; the other two were affected with hyperpiesia and arteriosclerosis, which Bach and Bourne regard as the obvious cause. If it be assumed that the arterial condition was the cause of the cardiac lesion, the possibility of direct influence of thyroxin is not ruled out; for the action of thyroxin may have caused the arteriosclerosis, and, if the peripheral vessels are affected, so are those of the heart muscle.

Bach and Bourne reached the conclusion that excess of thyroxin has no permanent effect on a heart uninfluenced by any other cause of cardiac enlargement or disease.

An interesting feature of thyreotoxæmia revealed by the investigation, was the early development in many cases of permanent hyperpiesia. Among possible causes of this arterial damage are the following; direct action of thyroxin on the vessel walls; permanent hyperactivity of the suprarenal glands, following secondary stimulation; the accelerating effect of prolonged tachycardia or increased metabolic rate on the degeneration of vessels that would ultimately degenerate in any event. Bach and Bourne suggest that arteries predisposed to disease are affected by hyperthyreoidism just as the unhealthy myocardium may be. The thesis is interesting.

Probably in most cases there is some cause other than the action of thyroxin for the permanent heart disease of persons recovered from hyperthyreoidism. The very fact that so many hearts apparently recover completely is suggestive of the truth of this. Possibly Bach and Bourne are correct in their view that myocardial disease is never caused by hyperthyreoidism *per se*; but their conclusion seems to be based on slender evidence.

[1] *The Quarterly Journal of Medicine*, October, 1932.

Abstracts from Current Medical Literature.

MORBID ANATOMY.

The Repair of Articular Cartilage.

G. A. BENNETT, W. BAUER AND S. J. MADDOCK (*The American Journal of Pathology*, September, 1932) have studied the repair of articular cartilage and the reaction of normal joints of adult dogs to surgically created defects of articular cartilage, to "joint mice" and to patellar displacement. Each type of lesion was examined after four, twelve, twenty and twenty-eight weeks' duration. The authors found that articular cartilage had a limited ability to repair aseptic lesions within its substance by independent regeneration of cartilage. These powers were feeble, and could not always be demonstrated. The greatest regenerative activity was noted in defects on the weight-bearing surfaces of the femoral condyles. A different form of repair was noted in the defects of the patellar groove when the patella had become displaced. In these circumstances vascular connective tissue (pannus) spread over the defects from the articular margins. When the lesions extended into the subchondral bone, a proliferation of connective tissue from the marrow spaces occurred. After a series of changes described by the authors in detail, the surface layer was avascular and resembled cartilage in the amount and staining quality of its intercellular substance and in the morphology of its cells. The new cells, however, did not acquire the distribution in columns which is characteristic of normal articular cartilage. After describing the changes resulting from the presence of "joint mice", the authors point out that their findings indicate that neither the presence of surgically created defects within cartilage, or cartilage and bone, nor the presence of loose bodies of cartilage, or of cartilage with attached bone, are in themselves a cause of important associated intraarticular pathological change. When the patella was displaced, hypertrophic changes were invariably found. The apposition of one articular surface with another is probably important in the maintenance of normal hyaline cartilage.

The Brain Stem in Pneumonia.

J. M. JOHNSTON (*Archives of Pathology*, October, 1932) states that there has been for many years a feeling that death in acute infections, particularly in pneumonia, is determined primarily by a failure of the control of respiration and circulation by the central nervous system. The author studied the brain in six cases of pneumonia. His controls consisted of two human brains from subjects of legal electrocution, six rabbit brains and twenty-two mouse brains. He found that in the six brains of the patients who died of pneumonia there was considerable damage to the cells of the medullary and pontine centres, the cells of the several nuclei showing varying degrees of change. The most severe and the least severe damage occurred in corresponding nuclei in the six cases. Cells in the sensory nuclei showed more damage than those in the motor nuclei. Cells of the reticular grey matter, described by other authors as the probable site of the respiratory and vaso-motor centres, showed the most severe degenerative changes. The author points out that he does not wish to intimate that the brain is the only organ damaged by the noxious agents in either pneumonia or anoxæmia.

Tumours of the Brain.

V. RUDERSHAUSEN (*Virchow's Archiv für Pathologische Anatomie und Physiologie und für Klinische Medizin*, July, 1932) has made a statistical report of the tumours of the brain discovered at autopsy at the Pathological Institute at Heidelberg. In 31,698 autopsies carried out between the years 1854 and 1931 there were 546 cases of tumour of the brain. Of the 546 cases, 444 were primary tumours and 102 were metastatic deposits. Of the 444 primary tumours, 232 were gliomata—52·25% of the primary tumours and 42·49% of the entire series of brain tumours. The ratio of male to female patients was 5 : 4 in the primary tumours, 4 : 3 in the secondary tumours and 3 : 2 in the gliomata. The author states that his figures correspond with those given by Cushing. Primary tumours were more common in the fifth and metastases in the sixth decade. Glioma occurs most frequently in men between the ages of forty-five and fifty, and in women between the ages of forty and forty-five.

Trophic Disturbances of the Stomach Following Vagotomy.

J. M. LASOWSKY AND A. N. PTSCHELINA (*Virchow's Archiv für Pathologische Anatomie und Physiologie und für Klinische Medizin*, August, 1932) have studied the trophic disturbances occurring in the stomach of dogs following bilateral vagotomy. They state that it is commonly held that various disturbances of the nervous system may bring about the development of pathological changes in the mucosa of the stomach, recognizable as erosion and acute ulcer. The authors failed to observe either erosion or ulcer after bilateral vagotomy. Vagotomy, however, gave rise to trophic disturbances in the gastric glands which manifested themselves in the following way. In the superficial epithelium of the pylorus and its neighbourhood there was an increased formation of mucus. In the mother cells associated with the normal formation of serous secretion there was a formation of mucus. Some of the mother cells were atrophic and the corresponding lamina of the glands were considerably enlarged. From the covering cells the nuclei had disappeared, and the cell substance was vacuolated. The morphological changes were accompanied by changes in function. These changes in the gastric glands, occurring without evidence of inflammation correspond with those seen in gastritis; and the authors conclude from this that the morphological signs of gastritis are not specific.

The Phagocytic Function of Leucocytes in Anæmia.

F. A. KNOTT AND S. J. HARTFALL (*The Journal of Pathology and Bacteriology*, November, 1932) have investigated the phagocytic function of leucocytes in anæmia. They point out that the number of circulating polymorphonuclear leucocytes is diminished in pernicious anæmia, approximately in proportion to the severity of the anæmia as judged by the red cell count. The poor resistance of patients with pernicious anæmia to septic complications is sometimes more pronounced than would be anticipated from or attributed to the anæmia *per se*. In the experience of the authors, this is not because they are incapable of producing an increased number of circulating leucocytes, for moderate leucocytosis is often seen during the septic complications of pernicious anæmia. The authors have therefore considered the functional capacity of the polymorphonuclear cells and the possibility of its depression; in other words, a diminution of phagocytic power. The technique used by the authors was that described by Knott in 1930. In this method a washed emulsion of *Staphylococcus albus* suspended in a 2% solution of sodium citrate is mixed with fresh blood and incubated; the number of cocci in each leucocyte is then recorded. The authors find that there is a definite lowering of phagocytic power in the severe relapse stages of pernicious anæmia, that an improvement occurs during recovery, but that the phagocytic index rarely rises to the normal level. Estimation of the phagocytic power of the leucocytes has a prognostic value in pernicious anæmia complicated by sepsis. Considerable depression of phagocytic power occurs in aplastic anæmia, but in simple achlorhydric anæmia, even when the degree of anæmia is severe, the leucocyte function is much less severely disturbed.

Inflammatory Rectal Strictures Caused by Lymphogranuloma Inguinale.

LUTZ (*Deutsche Medizinische Wochenschrift*, August 26, 1932) states that there are many causes of inflammatory rectal strictures, the commonest being syphilis, gonorrhœa and tuberculosis. Another cause, only recently recognized, is *Lymphogranuloma inguinale* (a newly described venereal disease), its

characteristics being large strumous buboes usually in the femoral, but occasionally in the iliac and hypogastric glands. In addition, a hæmatogenous spread may occur and foci typical of this disease have been found in the liver, lungs and meninges. Pathologically this disease belongs to the infective granulomata, closely resembling the active proliferating form of tuberculosis and syphilis. In the male, the primary infection is almost always in the region of the penis and, therefore, in most cases the superficial and deep femoral glands are enlarged. However, in the female, the lymphatic drainage is partly into the femoral glands, partly into the iliac and hypogastric glands, whilst from the posterior vaginal wall lymphatic channels run through the rectal fascia in close relationship to the ano-rectal glands. As a result of this, congestion occurs in the lymphatic channels along the rectal wall and formation of small abscesses, resulting in reactive connective tissue formation and concentric lacing in of the rectum. Occasionally the softened glands rupture through the rectal wall and rarely through the skin, forming fistulæ.

MORPHOLOGY.

Osteoclasts and Cartilage Removal in Endochondral Ossification.

G. S. DODDS (*American Journal of Anatomy*, March 15, 1932) has studied the border zone between cartilage and bone in the process of endochondral ossification in an attempt to find evidence as to the part played by the various cells of the marrow in the destruction of the cartilage. Calcification of the matrix of the cartilage model and of the epiphyseal cartilage, before its invasion by the marrow, is not complete. The following parts remain uncalcified: cross walls between cells in rows, walls between cells in nests, certain restricted areas of the matrix between nests, longitudinal walls between rows in groups of rows, certain areas in the matrix of the early diaphyseal centre of long bones. Where calcified portions of the matrix are being destroyed, osteoclasts are abundant. It is believed that they are the active agents in the destruction of this material. Where non-calcified portions are being destroyed, no osteoclasts are found, the destruction of this material probably being carried on by some of the smaller cells of the marrow. The distinctive power of the osteoclast is probably its ability to destroy calcified material, whether bone or cartilage. This destruction is probably accomplished by secretory rather than by phagocytic action. If osteoclasts have also the power of digesting the organic constituents of cartilage matrix, which they probably have, they share this function with other cells of the marrow. Cartilage removal is thus a twofold process, calcified and non-calcified portions not being destroyed by the same agency. There is, therefore, no one kind of cell to which the name "chondroclast" can be exclusively applied.

The Vermiform Appendix.

D. C. COLLINS (*Annals of Surgery*, December, 1932) has studied the length and position of the vermiform appendix in 4,680 specimens. He states that Robinson in 1895 found that the male appendix was on an average 0·6 centimetre longer than that of the female. Fawcett and Blachford in 1900 found the difference to be 1·0 centimetre. The longest appendix recorded is that described by Grauer, 33 centimetres after being fixed in formalin. One of 29·4 centimetres and one of 28·0 centimetres are recorded. In the author's series approximately 61% of the specimens were between 6·0 and 9·0 centimetres long. The extremes in length were 0·3 and 24·5 centimetres. The average length was 8·21 centimetres. The appendix of the male was on an average 0·68 centimetre longer than that of the female. One full-term normally developed fœtus was reported as not having an appendix. Discussing the position of the appendix, the author states that Gladstone and Wakeley in 1924 studied the appendix in 3,000 dissections. They found that 0·9% were anterior or preileac, 0·5% were splenic or post-ileac, 27·5% were pelvic and lay on the *psoas major* muscle and were near or hung over the brim of the pelvis, 1·86% were subcaecal and beneath the *caput caeci*, 69·2% were post-caecal and retrocolic and one case was ectopic. In the author's series 78·5% were anteriorly situated and 21·4% were retrocaecal. The author believes that the only true retrocaecal appendix is one that is either partially or entirely retroperitoneal and adherent to the posterior wall of the caecum. Of the author's 3,676 anterior specimens, 3,262 were free, 370 were bound down in the pelvis and 44 were adherent to the mesentery of the terminal portion of the ileum. Of the 1,004 retrocaecal specimens, 913 were bound down and either partially or totally retroperitoneal, 58 were free and subcaecal and 33 were bound down to retroperitoneal tissue behind the terminal portion of the ileum.

The Nasal Airway in the New-born Child.

G. LIVINGSTONE (*Proceedings of the Royal Society of Medicine*, October, 1932) has studied the nasal airway in the new-born child. He has obtained specimens from still-born fœtuses varying in age from five months gestation to full term, and has constructed a model with a 12·5 magnification. The inferior terminal is well developed, but is close to the lateral wall, and the anterior end does not progress into the lumen; it thus guides air into the inferior meatus, which is small. The author describes the middle terminal as having two portions, an ascending limb and a horizontal limb. The ascending portion stands out from the lateral wall and projects boldly into the cavity; the horizontal portion is close to the lateral wall. Thus the middle meatus is long and funnel-shaped. The superior terminal is developed behind the upward turn of the middle terminal and is flat, with no projections, sloping gently to the posterior choana. The vestibule and the antrum of the middle meatus seem to be proportionately larger in the child than in the adult, and thus more air passes to the olfactory channel. The author finds that the olfactory area is limited to a small area on the upper third of the septum, the superior terminal and a small portion of the middle terminal. By serial sections it is possible to mark out the transition from olfactory to respiratory mucosa; the transition is not always sudden, but is usually quite definite. Occasional islands of olfactory cells are separated from the recognized area by respiratory epithelium.

Innervation of the Bladder.

L. R. WHARTON (*The Journal of Urology*, December, 1932) discusses the innervation of the bladder. He finds that the ureter receives a nerve supply which is independent of the innervation of the kidney and bladder. These nerves go directly to the ureter from: (i) the lowest renal ganglion at the upper end of the spermatic plexus, (ii) the abdominal sympathetics. He claims to have confirmed observations by Latarjet and others as to the constitution of the solar plexus from which the renal and abdominal sympathetic plexuses are derived. He has also confirmed observations that the abdominal sympathetic (aortic) plexus receives branches from the upper lumbar sympathetic (prevertebral) ganglia, and that the pelvic plexus has direct connexions with the sacral cord. There is a connexion between the ureteral innervation on the one hand and the plexuses supplying the ovary, testis and parietal perineum. He states that these ureteral nerves can easily be isolated during the course of surgical operations, and that they can be excised and identified histologically.

An Anomaly of the Colon.

G. ELLIOT SMITH (*The Lancet*, October 29, 1932) describes an anomaly of the colon. The body was that of a Nubian. The pelvic colon was excessively long and measured 83 centimetres in length. This is only one centimetre less than the longest pelvic colon of which the author can find a record. The long loop of pelvic colon slipped to the right side of the abdomen and then fell to the left over the root of the mesentery. It was sufficiently long to pass down the left side of the abdomen into the pelvis.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION, IN CONJUNCTION WITH THE SECTION OF MEDICINE AND THE AUSTRALIAN DENTAL ASSOCIATION, NEW SOUTH WALES BRANCH, was held on October 27, 1932, in the Robert H. Todd Assembly Hall, British Medical Association House, 135, Macquarie Street, Sydney, DR. A. J. GIBSON, the President, in the chair.

Dental Sepsis.

DR. H. C. ADAMS read a paper entitled: "The Significance of Dental Sepsis" (see page 106).

DR. F. G. HARDWICK read a paper entitled: "The Relative Importance of Dental Periapical Infections" (see page 110).

DR. A. J. COLLINS said that he was delighted to have heard two such excellent papers. Dr. Adams had given a fine general survey of systemic disease in association with dental sepsis; but it was necessary to remember that dental sepsis was often the result of systemic disease and not the cause. For hundreds of years dental sepsis had been looked upon as a cause of constitutional disease. Dental sepsis might be divided into two classes: firstly, local (as of the mouth and alimentary tract) and, secondly, metastatic, or blood borne, which might be manifested in remote parts of the body. Dr. Collins regarded metastatic infections as due to periapical rather than to periodontal infections. Dr. Adams had said that periodontal infections were a frequent cause of arthritis, and this was so; but Dr. Collins thought that periapical infections were more often the cause. He referred to the danger of removing large numbers of such teeth in the presence of arthritis; for acute exacerbations of arthritis were sometimes still seen after the removal of infected teeth.

Dr. Collins therefore recommended the preliminary administration of pathogen selective vaccines prior to the removal of teeth in an attempt to immunize the patient. He agreed with Dr. Hardwick's views, and thought that teeth ought not to be sacrificed until other methods of removing pockets of infection had been tried. If the search for a focus of infection was a failure, and if, so far as external examination could reveal, there appeared to be no likely source of infection, then the patient should be sent to a pathologist. The pathologist, with his platinum needle, would be able to discover the infection by growing a streptococcus culture after insertion of the needle into the infected area. It could then be decided whether the tooth should be removed. Until all other means had been tried, the tooth should be spared. Dr. Collins said that further research should be carried out to determine whether the organism obtained was pathogenic to the patient. There were grounds for believing that the streptococcus of the mannite fermenting type was the most dangerous of those found round the bases of the teeth.

In conclusion, Dr. Collins said that consultations between doctors and dentists should be more formal; too often such consultations were held hurriedly over the telephone. The consultations should be conducted with greater care, preferably in the presence of the patient.

DR. G. F. S. DANSEY congratulated the speakers on their papers. He said that he had been in touch with Dr. Adams for many years, and that Dr. Adams was the first medical practitioner who really considered the question of focal infection with proper seriousness. Some years ago Dr. Adams had been rather extreme, but now he had mellowed because he had learned the dental side of the question. He thought that Dr. Adams had a real insight into the subject and that he was succeeding, at his lectures, in instilling something of this into the minds of medical students. Dr. Dansey said that the subject keenly interested him. Medical practitioners sometimes did not appear to recognize the importance of dental sepsis. They would, in attempting to discover the cause of the patient's condition, go through a train of evidence; in this train of evidence the teeth were often the last link. Usually the medical practitioner would say: "Go and get your teeth rayed." He would often never even ask to see the films or for a written report. This was the weak link in his evidence, and should be more seriously considered. The medical practitioner should see the films himself, and see that they were properly prepared. In conclusion, Dr. Dansey congratulated Dr. Hardwick, who, he said, was always most thorough.

DR. O. A. DIETHELM offered his congratulations to the speakers. The subject of the relationship between dental sepsis and systemic disease was one of great interest. Further cooperation between dentist and medical practitioner would mean a good deal in the cure of systemic troubles. He would like to see further work done in this direction. Dr. Diethelm would have liked to see pathologists and bacteriologists represented at the meeting, and would look forward to another meeting on the same subject next year in which the latter were represented.

In diagnosis it was a difficult question to know to what extent the teeth were responsible for the patient's condition. Dr. Diethelm thought that much help was to be had from pathogen selective cultures. The relationship between systemic disease and dental sepsis was remarkable and extensive. Dental sepsis was found to be the cause not only of gastro-intestinal diseases, but of many so-labelled neuroses, of duodenal and gastric ulcer and of neurasthenia resulting from the disturbance of the endocrine and nervous systems from toxæmia.

As to periapical and periodontal infection, both played an important part and, although he would not minimize the danger of periapical sepsis, Dr. Diethelm thought that sufficient emphasis was not laid on the danger of open sepsis. He referred to symptoms resembling ulcer that could be relieved merely by clearing up the sepsis that was the apparent cause of the trouble.

In emphasizing the importance of dental sepsis, Dr. Diethelm mentioned the association of gastric analysis with dental sepsis. In prolonged sepsis there was a remarkable association—absence of free hydrochloric acid with infection in the teeth. This was particularly pronounced when cultures of streptococci were obtained from the fæces as well as from the teeth. In the treatment of these conditions it was necessary to get to the root of the sepsis. This was most difficult when the radiological evidence was indefinite and when some unhealthy condition of the mouth was present. Here the work done with pathogen selective cultures, followed by vaccine therapy, was valuable.

In conclusion, Dr. Diethelm referred to the case of a man who suffered from a severe type of neuro-dermatitis. On investigation with the pathogen selective culture, *Streptococcus viridans* was isolated from the teeth and the gastro-intestinal tract. It was uncommon to find this infection with this particular organism, which in this particular case was cultured from both his teeth and fæces, while throat and urine were sterile. The neuro-dermatitis was very probably the result of a chronic toxæmia from this organism. The patient did well on vaccine therapy.

MR. F. A. ORMISTON said that he was pleased to see the attention of medical men turned towards the teeth. He did not believe in keeping teeth when they should be removed. But he had had occasion to read a paper on focal infection and had thus got information from all over the world. He found that the consensus of opinion in Europe was that 75% of the teeth extracted were quite innocent and the patients derived no benefit. Still, he contended that when the patient was in bad health, and the medical man had eliminated every other possible source of infection, then all devitalized teeth should be removed, especially if the patient were over forty-five years of age and the teeth were pulpless for, say, ten or fifteen years. Medical men were not perhaps aware that patients wearing

complete upper and lower sets of teeth lost from four-fifths to nine-tenths masticatory stress, and this was a very serious loss.

There were times when Mr. Ormiston imagined that he himself had every disease mentioned by the speakers, yet, until six weeks ago, he had not one devitalized tooth in his head, and the gums were perfectly healthy. He agreed with Dr. Collins, who made a plea for the retention of teeth until an effort was made to eliminate every other cause of infection.

MISS ANNIE PRAED said that the papers had been full of interest. But the psychic aspect had not been mentioned. When the X ray evidence was not conclusive, the psychic aspect should be at least considered. If they looked back they would remember patients who, having been made edentulous, were ill from the shock and from finding themselves so altered in appearance. Often, indeed, their troubles had not been relieved. Miss Praed said that unless the evidence was conclusive, every doubt should be eliminated before wholesale extraction was undertaken.

DR. P. CLIPHAM expressed his appreciation of the papers. Dr. Adams had been very enthusiastic about focal sepsis and also about open sepsis. Those who had been in practice for many years could look back on the old days when they scorned to extract a tooth giving no apparent cause for alarm. They were surprised now to find and realize that many teeth regarded as innocuous for years were indeed dangerous; and that a tooth which had lost its pulp supply only a short time previously was also dangerous. When patients came for examination suffering from systemic disease, it was no light matter to give an opinion. When the mouth was examined, at first appearance everything often looked comfortable. It was not always possible to tell visually or by heat and cold tests, or even by electrical tests, whether the tooth was vital. But by a combination of the hot and cold test with the electrical test the condition of the tooth became apparent. Patients frequently asked that only non-vital teeth should be examined by X rays. All the mouth must be examined. Often when examined by X rays, non-vital teeth showed no decided aberration from the normal. But if a tooth was under suspicion as having lost its pulp, two or three skiagrams should be taken from different angles. In many cases it would be found that the apical peridental lamella was punctured and the outlet for infection into the surrounding bone tissue in such cases was easily overlooked. Many patients came with pus formation in the gingivæ, yet on radiological examination the teeth looked normal. Dental surgeons must differentiate very carefully between gingivitis and pyorrhœal conditions before deciding to extract, and determine whether the condition was local gingivitis only. Time alone would show in such cases.

Closed infections were classed as being more dangerous. But, in Dr. Clipham's opinion, open infection could be equally dangerous. It was considered that closed infections were carried by the blood stream to all parts of the body. Open infection was one of the gingivæ and of the peridental membrane extending into the *lamina dura*. These tissues were often inflamed and infected, and were still served by the blood vessels. This type of infection, therefore, might be carried through the system just as easily as infection of the closed type. Hence it was important to study both types of infection and to be sure of what was stated in the reports. Dr. Clipham was by no means convinced, when pulpless teeth were treated and filled, even when the apices were amputated, that the tissues surrounding the apices remained uninfected. It took a long time to prove this fact. Dr. Clipham had rarely seen regeneration of normal bone right up to the tooth, and what appeared to be regenerated bone could not be classed as normal bone. X ray examination with soft rays giving sharp detail and good contrast would often show that the bone was not normal. The only test was to open up the tooth and to test it bacteriologically. This, however, was not practicable. The safest course to adopt was to regard all non-vital teeth as suspect.

DR. A. J. ARNOTT said that he especially enjoyed the paper by Dr. Adams. As regards the extraction of pulpless teeth, he referred to the question of residual infection. All pulpless teeth that were infected should be removed surgically. Removal by forceps resulted in the frequency of residual cysts after extraction of pulpless teeth.

In regard to the procedure of surgical removal, a flap of mucosa and periosteum was turned back, an alveolar plate was removed and any granuloma at apices of the teeth was made visible and correct surgical treatment was adopted.

Dr. Hardwick had referred to the filling of pulpless teeth by root fillings. Much research was necessary before it could be stated that after root filling such a tooth was innocuous to the patient. It was necessary to be able to prove that the drugs used would remain effective after a period of years.

In regard to radiographic examination of teeth and to the resulting interpretation, Dr. Arnott agreed with Dr. Dansey that it was necessary to be able to interpret dental radiographs correctly. It was not sufficient to observe an area of apical infection or other periodontal lesions; other evidence of pathogenic bone and tooth tissue had to be recognized.

MR. T. T. ALKIN said that a joint meeting of doctors and dentists such as this, was one of the greatest possible advances in regard to the health of the community. Dr. Adams and Dr. Hardwick were to be congratulated on their papers. To discover the origin of the disease itself it was important that the medical practitioner and dentist should collaborate. The important question was the point of origin of pyorrhœa in dental sepsis. They had to determine where the responsibility lay in the origin of disease. If the origin was dietetic, then it would be a matter for the medical practitioner, as it was here that the influence of the medical man alone would help. The troubles did not come into the dentist's hands till diseased conditions or infection had advanced. Cooperation at this point would mean a marked advance along preventive lines. Mr. Alkin stressed the importance of this aspect of the subject in regard to the prenatal care of mothers, and suggested that this aspect should be considered at some future meeting.

MR. DARVALL HUNT offered his congratulations to the readers of the papers. He referred to the question of devitalized teeth. What did the word "devitalized" imply? Did it mean the nerve was killed by arsenic? If so, he thought the tooth was definitely dead, and if it showed any sign of trouble it should be removed. On the other hand, if it was found necessary to remove the nerve from a tooth of an adult and an injection was used and the rubber dam applied and the operation completed under aseptic conditions, then was the tooth dead? In his opinion it was perhaps as vital as a tooth in which the nerve was present. He blamed the use of arsenical dressings and the non-use of rubber dam for most of the present-day periapical troubles. How could they depend upon phagocytosis if they had already poisoned the tooth with an arsenical dressing? In removing a nerve there certainly was a disturbance created and the recovery must be assisted; the easing of the bite should assist.

Mr. Hunt believed that they had no definite proof, even by X ray examination, that a tooth was sterile. Much of the absorption noted might be only the ashes after the fire. Perhaps the better way was to watch the patient's health and, if there were any signs of ill health, then the dead teeth must receive serious consideration.

Mr. Hunt believed that all patients should return to their dentist every six months at least, not only for a general inspection of the teeth, but for a definite query when dead teeth were present. Dr. Carl Bastian, of New York, when addressing the members of the Australian Dental Association last year, had stated that in dealing with adults American dentists, before removing a nerve from a tooth, took the precaution of consulting the patient's medical adviser and definitely deciding whether the patient's health were such that the carrying of a dead tooth would be advisable. Hence the need for closer cooperation between the two professions.

In conclusion, Mr. Hunt said it was gratifying to see so many members of the two professions together.

DR. W. S. ZIELE said he felt there was no one better qualified to pay tribute to Dr. Adams's great work, which came directly under his notice at Sydney Hospital. He also expressed appreciation of Dr. Hardwick's paper in its scientific aspect and conclusions, and he greatly appreciated his defence of the properly root-filled pulpless tooth. He referred to the recent work of Hartzell, Billings, C. H. Mayo and others on the pathology of dental sepsis. They had recently made cultures from 105 vital teeth. In 42% of cases with pyorrhœa present, they found the vital pulps infected with pyogenic organisms, while in the pulps of carious teeth similarly positive cultures were found to be present in 43% of vital pulps. What did Dr. Adams say of these and their relation to focal infection? Recent investigations by such men as these had greatly disturbed what they termed the unproved theories of the pulpless tooth focal infection theorists.

DR. H. C. MOXHAM, President of the Australian Dental Association, said that the members of the Dental Association had been looking forward to this evening with much pleasure. He appreciated the papers of Dr. Adams and Dr. Hardwick.

Dr. Adams and he were disciples in this work, but he was against the saving of teeth as shown and recommended by Dr. Hardwick. He considered conservative dentistry (an endeavour to repair infected teeth) should not be attempted when patients were suffering from systemic disorders. He, with Dr. Utz, some time ago had carried out extensive research investigations of such teeth as seen on the films. Devitalized teeth after various stages of modern treatment were extracted, and from the root canals as well as the apices streptococcal organisms were cultured. The same applied to apicoectomies or root-end excisions. All teeth on subsequent extraction were recorded as harbourers of streptococcal organisms. To maintain the health of the patient it was necessary to remove all teeth that radiographically inclined to the abnormal. That being so, was it not even more important to remove the revealed septic foci from people suffering from some form of systemic absorption? Without such a procedure, it became almost impossible to produce any alteration in the patient's condition. The X rays, however, did not tell the whole story. Two examples were given, one of rheumatoid arthritis and the other of fibrositis. From the X ray evidence no abnormality could be discerned, there being no absorption of bone surrounding the teeth and no clinical signs of pocket formation, yet from each patient's mannite fermentations were grown from cultures taken from around the teeth. After extraction the patients completely recovered.

These cases proved that in early infections before destruction of the soft and hard tissues was apparent, the X ray and clinical finding could not always be taken as conclusive that no infection existed. The question that was absorbing the minds of the dental world was: "When and why teeth should be extracted." To solve this, more research must be done. The Dental Association Research Department was dealing with this subject, and the results already showed that carious teeth had frequently streptococcally infected pulps, which made one realize that in future filled teeth must also be taken into consideration when dealing with the health of the people.

DR. A. J. GIBSON expressed his appreciation of the two papers and stressed the need for collaboration between doctors and dentists, and hoped that they would make a practice of having joint meetings in the future. It was important to know what work was being done in this direction. The opinions of speakers had not been unanimous as to the treatment of these conditions. It was a great education to realize the various conditions associated with dental sepsis and the necessity for medical practitioners to get the opinions of people who knew how to interpret dental conditions.

In reply, Dr. Adams, referring to open and closed sepsis, said that he agreed with Dr. Collins in regard to periapical sepsis; he stressed the importance of open sepsis in arthritis. He himself had had trouble with arthritis. He had had three pocketed teeth removed and the arthritic pain disappeared. At the present time he had been experiencing pain in the shoulder, and on the removal of one of his few remaining teeth he had no doubt that the pain would go. He had postponed his visit to the dentist until after the reading of his paper.

Dr. Diethelm had referred to periapical and open sepsis in combination with gastric and duodenal ulcer—also neurosis in the stomach and achlorhydria. Dr. Adams mentioned a patient who had colitis. Her mouth was a veritable cesspit. His comments on her mouth condition had not made him popular. Some medical practitioners had no idea that the teeth were connected with infection of the colon.

In regard to the psychic aspect, Dr. Adams agreed with Miss Praed that wholesale extractions should never be done. He hated anyone who asked him to give an anæsthetic for extraction of all the teeth. The man who performed wholesale extraction was not wise. With neurasthenic patients he felt it wise to retain a couple of teeth, until the lower denture had settled; it sometimes flopped and caused mental upset. Even at the risk of sepsis, it was wise to retain a couple of teeth for a time.

As to what Dr. Clipham said about the necessity for taking an X ray picture of the whole mouth, Dr. Adams agreed that the spaces also should be examined radiologically. Often fragments had been left and were heavily infected. The infection might spread to the bone and cause rarefying osteitis; it might even spread to the jaw bones.

With regard to the infection of devitalized teeth from other sources, Dr. Adams thought that this was quite possible. In systemic disease often the teeth were not the only source of infection; for instance, the gall bladder might be infected at the same time.

Dr. Adams said that he would hate to keep in his head teeth similar to those seen in some of the pictures that Dr. Hardwick had shown. He had the greatest admiration for regeneration of bone, but he did not think that a man who was going down hill should be subjected to infection. The teeth ought not to be allowed to remain. He had little use for the practice of removing the apices; he could not believe that disinfection was possible.

In reply to Dr. Ziele, Dr. Adams said that opening up might be suitable, but with patients who were very ill the full clinical facts must be presented before this was done. He referred to a patient of his who had been seen by Dr. Ziele; Dr. Ziele suggested that alveolectomy might be done. But the man was unlikely to live for more than a year or two, and when Dr. Adams pointed out that the kidney function was poor, Dr. Ziele agreed that it would be madness to do anything extensive.

The discussion of the point raised by Mr. Alkin, namely, the prevention of disease and the nutrition of children, would require an evening in itself. It was a subject of great importance.

Dr. Hardwick, in reply, said that he realized that he was skating on thin ice, and that he had placed a halter round his neck. To what purpose did they possess such scientific instruments as they did possess if they were thrown overboard and if X ray pictures were discarded? Otherwise they would need a new specialist in clairvoyance. Dr. Hardwick pointed out that if bone was regenerated, then infection was eliminated. Dr. Moxham had effectively proved that they should not have any teeth at all. Dr. Hardwick said that often they produced an elaborate scientific explanation for some phenomenon that was in reality brought about by some quite different and far more simple cause.

ANNUAL MEETING.

THE ANNUAL MEETING OF THE VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION AND OF THE MEDICAL SOCIETY OF VICTORIA was held at the Medical Society Hall, East

Melbourne, on December 7, 1932, DR. B. M. SUTHERLAND, the President, in the chair.

ELECTION OF OFFICE-BEARERS AND MEMBERS OF COUNCIL.

The President announced that the Council had elected the following office-bearers:

President: Dr. W. G. D. Upjohn.

Vice-Presidents: Dr. Gerald Weigall, Dr. Allen Robertson.

Chairman of Council: Dr. J. Newman Morris.

Honorary Secretary: Dr. J. P. Major.

Honorary Treasurer: Dr. C. H. Mollison.

Honorary Librarian: Dr. W. G. D. Upjohn.

The President announced that the following had been elected members of the Council by the general body of members: Professor R. Marshall Allan, Dr. H. C. Colville, Dr. John Dale, Dr. A. P. Derham, Dr. R. M. Downes, Dr. D. M. Embelton, Dr. J. S. Green, Dr. Victor Hurley, Dr. L. S. Latham, Dr. F. Kingsley Norris, Dr. Allen Robertson, Dr. H. Douglas Stephens, Dr. B. M. Sutherland, Dr. B. T. Zwar.

The President also announced that the following had been elected by the subdivisions: Dr. F. J. Bonnin, Dr. W. F. Brownell, Dr. J. A. Cahill, Dr. C. H. Dickson, Dr. R. L. Fulton, Dr. W. H. Godby, Dr. G. H. Guthridge, Dr. J. L. M. Kneebone, Dr. P. V. Langmore, Dr. J. P. Major, Dr. F. E. McAree, Dr. D. C. Pigdon, Dr. W. A. Spring, Dr. Walter Summons, Dr. A. R. Thorne, Dr. W. G. D. Upjohn, Dr. Gerald Weigall, Dr. J. F. Wilkinson.

The President announced that Dr. R. H. Fetherston, Dr. Frank L. Davies, Dr. C. H. Mollison, Dr. J. Newman Morris were the *ex officio* members of the Council.

The representative of the Victorian Medical Women's Society was Dr. Constance Ellis.

The President announced that the following had been coopted as members of the Council: Dr. G. A. Birnie, Dr. Mark Gardner, Dr. D. M. Rosenberg.

ANNUAL REPORT OF THE COUNCIL.

The annual report of the Council, having been circulated, was taken as read and adopted. The report is as follows:

The Council of the Branch and the Committee of the Society present the fifty-third annual report of the Branch and the seventy-seventh of the Society.

Election.

At the annual meeting, held last December, the following members of the Council and of the Committee were elected: Professor R. Marshall Allan, Dr. H. C. Colville, Dr. John Dale, Dr. A. P. Derham, Dr. R. M. Downes, Dr. D. M. Embelton, Dr. W. A. Hailes, Dr. Victor Hurley, Dr. L. S. Latham, Dr. J. P. Major, Dr. D. Rosenberg, Dr. H. D. Stephens, Dr. B. M. Sutherland, Dr. B. T. Zwar.

The following were elected to represent the subdivisions: Dr. J. R. Bell, Dr. F. J. Bonnin, Dr. W. F. Brownell, Dr. J. A. Cahill, Dr. S. C. Fitzpatrick, Dr. J. W. Florance, Dr. W. H. Godby, Dr. G. H. Guthridge, Dr. P. V. Langmore, Dr. F. E. McAree, Dr. R. G. McPhee, Dr. D. C. Pigdon, Dr. W. A. Spring, Dr. Walter Summons, Dr. A. R. Thorne, Dr. W. G. D. Upjohn, Dr. Gerald Weigall, Dr. J. F. Wilkinson. Dr. C. H. Dickson was elected to represent the Goulburn Subdivision in place of Dr. J. W. Florance (deceased).

The Council, by virtue of its powers under Rule 8, coopted Dr. J. S. Green, Dr. F. Kingsley Norris, Dr. Allen Robertson, and by the same rule elected Dr. Constance Ellis, nominated by the Victorian Medical Women's Society. The four Trustees of the Medical Society of Victoria are members *ex officio*.

The Council elected the following office-bearers: President, Dr. B. M. Sutherland; Vice-Presidents, Dr. W. G. D. Upjohn and Dr. Gerald Weigall; Honorary Secretary, Dr. J. P. Major; Honorary Treasurer, Dr. C. H. Mollison; Honorary Librarian, Dr. W. G. D. Upjohn; and the Chairman of Council, Dr. J. Newman Morris, and Acting Chairman of Council (during the absence of Dr. Morris), Dr. Victor Hurley.

Executive.—The President, with other office-bearers and the immediate past President, Dr. Victor Hurley, constituted the Executive.

Council Meetings.

There were twelve ordinary and three special meetings of the Council, at which the attendances were as follows:

Dr. Colville	15	Dr. Rosenberg	11
Dr. Davies	15	Dr. Fetherston	11
Dr. Hurley	15	Dr. Stephens	11
Dr. Embelton	14	Dr. Wilkinson	11
Dr. Major	14	Dr. Latham	10
Dr. Mollison	14	Dr. McAree	10
Dr. Summons	14	Dr. Pigdon	10
Dr. Cahill	13	Dr. Guthridge	9
Dr. Downes	13	Dr. McPhee	9
Dr. Ellis	13	Dr. Hailes	8
Dr. Norris	13	Dr. Thorne	6
Dr. Robertson	13	Dr. Brownell	5
Dr. Upjohn	13	Dr. Morris[1]	3
Dr. Allan	12	Dr. Dickson[2]	2
Dr. Green	12	Dr. Bell	1
Dr. Sutherland	12	Dr. Bonnin	1
Dr. Weigall	12	Dr. Fitzpatrick	1
Dr. Zwar	12	Dr. Spring	1
Dr. Dale	11	Dr. Godby	0
Dr. Derham	11	Dr. Langmore	0

[1] Absent from the State.
[2] Elected during the year.

The average attendance at each meeting of the Council was 25·3. The highest number present at any meeting was thirty-one and the lowest fourteen.

Appointment of Subcommittees.

The following subcommittees were appointed by the Council. The first-named member acted as convener of the subcommittee:

Ethics.—Dr. Wilkinson, Dr. Davies, Dr. Downes, Dr. Fetherston, Dr. Latham, Dr. Pigdon, Dr. Zwar and the Executive.

Finance, House and Library.—Dr. Mollison, Dr. Fetherston and Dr. Upjohn.

Legislative.—Dr. Colville, Professor Marshall Allan, Dr. Davies, Dr. Green, Dr. Guthridge, Dr. Latham, Dr. Morris, Dr. Norris and Dr. Rosenberg.

Organization.—Dr. Robertson, Dr. Bell, Dr. Brownell, Dr. Cahill, Dr. Green, Dr. Guthridge, Dr. McAree, Dr. McPhee, Dr. Pigdon, Dr. Rosenberg, Dr. Summons, Dr. Sutherland, Dr. Upjohn, Dr. Weigall, Dr. Wilkinson and representatives of country subdivisions.

Public Health.—Dr. Stephens, Professor Marshall Allan, Dr. Cahill, Dr. Dale, Dr. Derham, Dr. Ellis and Dr. Summons.

Public Questions.—Dr. Bell, Dr. Brownell, Dr. Dale, Dr. Embelton, Dr. Norris, Dr. Rosenberg and Dr. Summons.

Services.—Dr. Dale, Dr. Derham, Dr. Downes, Dr. Fetherston, Dr. Green, Dr. Hailes, Dr. McAree and Dr. Robertson.

Science.—Dr. Hailes, Dr. Bell, Dr. Colville, Dr. Downes, Dr. Ellis, Dr. Norris, Dr. Stephens.

Hospital.—Dr. Zwar, Dr. Rosenberg, Dr. Hurley, Dr. Latham, Dr. McPhee, Dr. Morris, Dr. Wilkinson, Dr. Norris, Dr. Thorne and Professor Marshall Allan.

Standing Insurance.—Dr. Embelton, Dr. Davies, Dr. Hurley, Dr. McPhee, Dr. Mollison and Dr. Major.

Correspondence.—Dr. Major and Dr. Morris. Dr. Davies was appointed to act in the absence of Dr. Morris.

Special Subcommittees.

Early Medical History.—Dr. Meyer, Dr. Hooper, Dr. Fetherston, Dr. Kenny, Dr. A. Jeffreys Wood, Dr. Archie Black, Dr. W. R. Boyd, Dr. G. T. Howard.

Yallourn Committee.—Dr. Morris, Dr. Davies, Dr. Sutherland, Dr. Zwar, Dr. Wilkinson, Dr. Robertson and Dr. Major.

Appointments and Nominations.

Annual Representative Meeting, London.—Representative, Dr. J. Newman Morris; Delegates, Dr. John Colquhoun and Dr. Ian Jeffreys Wood.

Bush Nursing Association.—Dr. Derham and Dr. Sutherland.

City Electoral Roll.—Dr. Hurley, Dr. Major and Dr. Mollison.

Free Kindergarten Union.—Dr. Weigall.

Victorian Baby Health Centres' Association.—Dr. Derham.

Federal Committee, 1932.—Dr. Davies and Dr. Morris.

Melbourne University Association.—Dr. Stephens.

Health Association of Australia.—Dr. Dale and Dr. Summons.

Victorian Institute of Almoners.—Dr. Morris (Dr. Hurley as Deputy).

Lord Mayor's Fund.—Dr. Morris (Dr. Hurley as Deputy).

Medical Advisory Committee, Education Department.—Dr. Zwar.

Victorian Council for Mental Hygiene.—Dr. Dale and Dr. Derham.

Melbourne Permanent Post-Graduate Committee.—Dr. Anderson and Dr. Upjohn, and the Convener of the Science Subcommittee (Dr. Hailes). Dr. Major was appointed in place of Dr. Anderson (deceased).

Big Brother Movement.—Dr. Weigall.

The Society for Health of Women and Children of Victoria.—Professor Allan.

Standards Association of Australia.—Dr. B. L. Stanton.

Standing Appointments.

Trustees of the Medical Society of Victoria.—Dr. Davies, Dr. Fetherston, Dr. Mollison and Dr. Morris.

The Advisory Committee to the Charities Board.—Dr. Hurley, Dr. Latham, Dr. Anderson, Dr. Morris, Dr. McPhee, Dr. Wilkinson and Dr. Zwar.

Central Council, British Medical Association.—Dr. T. P. Dunhill.

Victorian Correspondent, British Medical Journal.—Dr. A. P. Derham.

British Medical Agency Company of Victoria Proprietary, Limited.—Directors: Dr. Mollison (Chairman) and Dr. Fetherston; Managing Director: Mr. W. Ramsay.

British Medical Insurance Company of Victoria.—Directors: Dr. Mollison (chairman), Dr. Fetherston, Dr. Hughes and Dr. Morris; Secretary: Mr. H. M. Brindley.

Board of Australian Inland Missions.—Dr. J. W. Dunbar Hooper.

Membership Roll.

The number of members on the roll is 1,339. Fifty-eight names were added (32 by election, 8 who had paid arrears, and 18 by transfer from other States). Sixty-four were removed (13 by death, 12 by resignation, 22 by transfer to other States, and 17 who allowed their subscriptions to fall two years in arrears).

We have to record with regret the death of the following members and Associate: Dr. A. V. M. Anderson, Dr. P. B. Bennie, Dr. A. W. Eddie, Dr. J. W. Florance, Dr. Sybil Hawkins, Dr. F. D. Hayman, Dr. H. Lillies, Dr. Margaret McLorinan, Dr. A. W. G. Murray, Dr. L. Ormond-Smith, Dr. C. D. Russell, Dr. Patrick Shaw, Dr. T. W. Sinclair, Dr. Mervyn A. Stewart.

Associates.

The following members were transferred to the list of Associates: Dr. A. G. Black, Dr. Ramsay Mailer, Dr. W. Atkinson Wood. The number of Associates is now 33.

Procedure of Council Meetings.

Meetings of subcommittees were allotted to certain fixed days in relation to Council meetings. Except in matters of policy, the recommendations of the subcommittees are forwarded to the Executive, and, if both bodies are unanimous in their determination, the recommendations are adopted by the Council. The remaining business is considered by the Council. This greatly expedites the work and enables the Council to meet once instead of twice a month.

Annual Report, 1931.

The Medical Secretary of the Association in London, in acknowledging receipt of our report for last year, stated that the record of 33 general meetings and 18 Branch Council meetings in the year surpassed, not only all records for 1931, but also all records in the history of the Association.

Ethics Subcommittee.

There were twelve meetings of the Committee, with an average attendance of nine.

The following determinations are brought under the notice of members:

Consultants Treating Patients of Unethical Practitioners.—"A member of the Association, on being requested to see professionally the patient of a practitioner who is ineligible for membership of the British Medical Association, may do so without any reference to the attending practitioner. The member may then take over the care of the patient, or, if unable so to do, should advise the calling in of an ethical practitioner and himself then assume the rôle of consultant.

"Should the patient refuse this procedure, the member may give his opinion on the case, but shall not under any circumstances communicate with the unethical practitioner."

Purchase of an Unethical Practice.—The Council ruled that no practice of a doctor ineligible for membership of the Association shall be purchased by a member of the Branch unless such purchase shall have received the approval of the Council's Executive. Any application for permission to purchase shall be communicated within two days to the secretary and representative of the subdivision concerned. A meeting of members in the district concerned shall be summoned within three days by the Secretary of the Branch at which a delegation of the Council appointed by the President shall attend. The delegation shall report to the Executive at its earliest meeting, and one or more members of the district concerned may be invited to attend. The decision of the Executive at this meeting shall be final.

Advertising.—In two cases the editors of newspapers wrote apologizing for having inserted paragraphs in their papers relating to attendance of doctors upon patients.

A specialist visiting a distant town is permitted to have a notice at the place he visits, giving his visiting day and his specialty, and stating that appointments may be booked within.

Business Ethics.—At the request of the Vocational Guidance Officer of the Education Department, the late Dr. Anderson and Dr. Wilkinson compiled an Ethical Code of the medical profession for inclusion in a text book on vocational guidance.

Organization Committee.

The Committee met thirteen times and the average attendance was nine.

It was learnt that at the Children's Hospital there was a long list of out-patients who desired minor operations and who were able to pay small fees.

The Council resolved that:

(*a*) Any case that cannot be attended to within a reasonably short period should be referred to the family doctor of the patient.

(*b*) If the patient has no medical attendant, he should be advised to attend a medical practitioner.

(*c*) He should be informed that minor operations could be adequately performed at moderate fees in his district.

(*d*) A paper should be handed to each patient for the local doctor: "This case is being sent to you from the Children's Hospital, at the request of the British Medical Association, for operation at reduced fees." The question of making the same principle applicable to all metropolitan public hospitals is still under consideration.

A charge may be made for the cost of vaccines and serums, but no charge may be made for their injection. There is no provision in the Wasley Award for treatment by radium, diathermy *et cetera*, but such special treatment is usually paid for without question.

A member was informed that he should charge his lodge patients at the same rate as his private patients for treatment by X rays and diathermy.

Private contracts were permitted with timber workers on conditions which were thought to be the best obtainable under the existing financial conditions in the particular districts. Such contracts were permitted for one year only.

The Council approved of district meetings of doctors and chemists. Three of such meetings were held, and matters of mutual interest were discussed, such as chemists prescribing, the supplying of expensive proprietary medicines, the quotation by doctors to their patients of the price of drugs. It was suggested that a list of conditions should be drawn up which chemists should not treat, and this list be hung in the chemists' shops, but to this the Council could not agree.

A circular was issued to members informing them that female members placed on the list of male lodges should pay the male rate of twenty shillings and twenty-five shillings, and that in recognized mixed lodges females should pay an intermediate rate of sixteen shillings. This was not generally known to our members or to the lodge secretaries, who had been paying the rate of twelve shillings prescribed for female lodges since 1920.

Two of the orders endeavoured to create local mixed lodges in order to secure a lower rate, but the Council informed each order that it would not grant any variation of the Wasley award with regard to concessions in the matter of female members.

If a wife is a member of a lodge and pays full rates, the children should be regarded as her dependants and not the husband's.

It was learnt that the salaries of the medical officers at Yallourn were being considerably reduced. A conference was arranged with the Yallourn Hospital Committee, and a satisfactory agreement was reached. At the suggestion of this Association, Dr. Eric Cooper, Medical Superintendent of the Melbourne Hospital, visited Yallourn and reported on possible savings in hospital equipment. His report was greatly appreciated by the Yallourn Hospital Committee.

In regard to Mallee doctors, the Minister of Lands agreed that out of the wheat harvest of 1931 the medical man would be a preferential creditor to the extent of 50% of his accounts for that year, but in no case would he be paid more than £10 on any individual account. Mileage fees over twenty miles would be paid, also out-of-pocket expenses for anæsthetics; also urgency operations. Members expressed themselves as satisfied with the arrangement made for 1931, and at their request the Council has asked the Government to make a similar arrangement with regard to the 1932 wheat harvest.

The Victorian Women's Sports Consultant Committee proposed a scheme of medical examination of about 2,000 women athletes, mostly engaged in factories and offices. To this scheme the Council gave its approval. The remuneration agreed upon was at the rate of one guinea per evening of one and a half hours.

It was decided that remuneration for diphtheria immunization should be at the rate of one guinea per hour for a medical officer of health and two guineas per hour if conducted by a private practitioner—mileage fees to be extra.

The Crown Law Department intimated that the total mileage for *post mortem* examinations had been reduced from one shilling and sixpence to one shilling per mile. The Council protested against the 33⅓% reduction and asked that the reduction should be to one shilling and threepence. The Department replied that the Attorney-General was unable to alter his previous decision.

Legislative Subcommittee.

This committee met on eight occasions.

Lunacy Act.—A letter was sent to the Chief Secretary asking that the amendments to the Act sought in 1930 safeguarding the medical practitioner who certifies a person to be insane, should be brought before Parliament, and that additional clauses should be added in order to protect a medical practitioner who is called upon to perform an operation on an insane person or on one who has been placed in a receiving house. This matter is now under consideration of the Government.

A rule was amended to provide for reduced subscriptions from members financial embarrassed. Under the new rule an application is made to the Chairman of the Finance Committee, and the decision of the Finance Committee is conveyed to the Executive, and, if both bodies are unanimous, the reduced subscription will become operative for one year only. The communication is regarded as confidential and does not come before the Council. To secure a reduction for a subsequent year the application must be renewed.

Members were informed that a municipal council, on the recommendation of its medical officer of health, shall provide, in accordance with the Act, drugs and other substances for the prevention and cure of infectious diseases and for the accommodation of patients and such medical, nursing and other aid to patients as may be necessary.

Members have been accustomed to wait till their notification books, with regard to infectious diseases, were full before making a claim on the Health Department. The department advised members that it would pay for those of that financial year only. Later on, representations being made, it stated that it would note the amount of arrears claimed and place them on the estimates for the following year.

The Legislative Committee met the Pharmaceutical Society in conference and discussed the proposed regulations to the *Venereal Diseases Act*. These were approved by the Council; and the Health Department, which had referred them to us, was so informed.

Reorganization of the Branch.—The Council requested the Home Association to make a final decision as to whether the proposed change is contrary to the constitution of the Association. Dr. Morris, when in England, was in communication with that body on the matter, and he will report on his return.

Hospital Subcommittee.

This Committee met eight times.

At the request of the Charities Board, a scale of fees for intermediate hospitals, based on the ordinary scale of fees, showing only the maximum intermediate fee, with a provision that this scale of fees may be amended by the Council from time to time, was submitted to the Charities Board in requirements of the regulations.

Where a patient in a public hospital, authorized to receive intermediate patients, has been reclassified as intermediate, the medical attendant has a right to charge intermediate fees. This ruling was sent by the Charities Board to the executors of a deceased patient.

The Hospital Committee has under consideration the regulations and instructions issued by the Charities Board with regard to intermediate accommodation for patients in country public hospitals.

It was stated by canvassers on behalf of the Mooroopna Hospital that the hospital was open to all classes of the community, regardless of their income limit. The Charities Board agreed to take steps to see that this misstatement was corrected.

The use of X ray plants in country public hospitals should be available to hospital patients only, and it should not be available to private patients if there is also a private X ray plant in the town.

The Crown Law Department contended that the medical officer of a public hospital who had, in an intermediate ward

of that hospital, treated a private patient, who subsequently died, was not entitled to charge for holding a *post mortem* examination. The Charities Board held that the position was the same as if the doctor had treated the patient in a private hospital. On representations being made to the Attorney-General, the department paid for the *post mortem* examination.

Public Health Subcommittee and Public Questions Subcommittee.

Children's Welfare Act, 1915.—Boarded-out children have been taken from their foster parents and placed in charitable institutions, called "Part VIII Homes". The Council informed members that it disapproved of the medical treatment of boarded-out children being honorary in such homes.

A letter was sent to the Chief Secretary, requesting that medical officers should be relieved of paying medicines out of their salaries; that it was futile to visit the homes once in three months as specified. It was imposing on the generosity of the medical profession if foster children were transferred to Part VIII homes, where the services of the medical officers are usually honorary. It was pointed out that the lists supplied to the medical officers were frequently inaccurate, and in this way the medical officer has been called to pay useless visits. Further, foster parents who have been called upon for medical certificates are not in a position to pay. It was thought that the department should accept responsibility for such certificates. This matter is under consideration of the Government.

In some cases municipal councils had reduced the salaries of the medical officers of health beyond the reduction made in the salaries of the other municipal officers. They were informed that such action would not be permitted by the Public Health Department, and accordingly the disproportion of reduction was rectified.

It was resolved that an attempt be made to educate the lay public in respect to its general health and the prevention of disease. To this end it was proposed that a series of regular broadcasting talks and short articles in the daily Press should be instituted and continued, if possible, throughout the year. The medical lectures during Health Week were arranged by the committee.

The Commonwealth Department of Health asked whether there would be any material prejudice to the health of mothers if the issue of the brochure bearing the title "Maternity and Care of the Baby" were terminated. It was informed that, although it was felt to be important that the brochure should still be distributed in certain parts of the Commonwealth, the Council did not consider that the expense of publication could be justified at the present time.

On the suggestion of the Milk Producers' Association, a letter was sent to the Minister of Agriculture signifying the approval of the Council of the Regulations under the *Milk and Dairy Supervision Act*, 1928, more particularly that of the delivery of milk in bottles.

The Commonwealth Department of Health asked for cooperation with the Pharmaceutical Association in disseminating knowledge with regard to early symptoms of cancer. The Council resolved that it would not cooperate with any organization not consisting of medical practitioners.

The department also requested that the Council should arrange for lectures to nurses on symptoms of cancer. This was considered inadvisable. It further suggested that we should cooperate with the Public Health Association and with broadcasting stations.

The Council expressed itself in favour of a full cooperation with the department in its cancer propaganda by means of literature, newspaper articles, broadcast talks and lectures; and that such broadcast talks should be anonymous.

Federal Committee.

The Council informed the Federal Committee that it did not approve of the resolution that the report with regard to the medical treatment of natives of Central Australia should be sent to the League of Nations.

As it appeared that the Australasian Medical Congress (British Medical Association), which it was proposed should be held in Western Australia, was not likely to be a success in 1932 or in 1933 if held in Western Australia, the Council suggested to the Federal Committee that a congress should be held late in 1933 or early in 1934, in some other State, and that the other States should be given an opportunity of issuing an invitation. This Branch expressed itself as prepared to organize a congress if the Federal Committee so desired.

In 1924 the Federal Committee arranged with the Repatriation Department that lodge medical officers would treat war widows and dependants on the same terms as lodge members. We were informed that the list was fixed and was in possession of the department. In the case of a recent war widow, we informed a member that she did not come within the scope of the agreement with the department. A protest was made by the order concerned, and the Repatriation Department informed the Council that the agreement was for the widows of all returned soldiers who had died as a result of war wounds, and that there was a misapprehension with regard to a list. The department contended that no such list ever existed; that the agreement with the Federal Committee was for widows of returned soldiers not in accordance with any specified list, but for all such as became widows at any future date. The matter is still under consideration.

Dr. Fetherston acted in place of Dr. J. Newman Morris at the meeting of the Federal Committee in September.

In common with the other Branches, it was thought that the amount of the annual subscription paid to London was too great, and the Federal Committee was asked to make representations to the Home Association personally through the Chairman of the Federal Committee, Sir Henry Newland, and Dr. Morris when they were in England. We have received *interim* reports from Dr. Morris, but nothing final has been decided as yet.

A full report of the proceedings of the Federal Committee appears in THE MEDICAL JOURNAL OF AUSTRALIA, March 12, page 377, and September 17, page 370.

Science Subcommittee.

As the attendance at Branch meetings was not considered satisfactory, it was agreed that in future two of the monthly meetings should be conducted conjointly by the Branch and one of the sections, and to this meeting all members of the Branch are to be invited, each active section to be asked to cooperate in turn.

It was resolved that in regard to provincial Branch meetings the clinical programme should be conducted by local members; that as far as possible the clinical programme should be equally divided between medical and surgical work and other cases of special interest; that the surgical side should not overshadow the other branches; that one paper be read by a local member and that one paper may be contributed by a visitor.

At country Branch meetings the arrangements for a lecturer from Melbourne should be made through the convener of the Science Subcommittee.

At the request of the Council, Dr. A. L. Kenny delivered the Syme Memorial Lecture. The Council expressed to him its great appreciation of the lecture.

Professor W. A. Osborne delivered the first Embley Memorial Lecture on March 17 before a gathering of members, relatives and friends of the late Dr. Embley, members of the University Council, medical students and heads of affiliated colleges.

The Science Subcommittee arranged the Branch and clinical meetings throughout the year. Ten monthly meetings, three Branch country meetings, one special meeting, eight clinical meetings and ten post-graduate lectures were held. The following were the subjects dealt with:

February.—Dr. Ian Wood and Dr. H. Flecker: (*a*) "Cinema Demonstration", (*b*) "Ossification of Bones".

March.—Dr. W. Cuscaden: "Birth Injuries".

April.—Dr. M. D. Silberberg: "*Angina Pectoris*".

May.—Dr. Harold Moore: "Genito-Urinary Tuberculosis".

June.—Dr. J. Leon Jona: "Pyelitis".

July.—Dr. H. Trumble: "The Anatomy, Physiology and Surgery of the Autonomic Nervous System in the Abdomen".

August.—Dr. T. King: "Lecture Demonstration on the Treatment of Fractures".

September.—Demonstration at the Commonwealth Serum Laboratory.

October.—Demonstration at the University in the Pathological Department.

Branch Meetings in the Country.

March.—Meeting at Geelong: Dr. A. E. Brown (Colac), "Spinal Anæsthesia"; Dr. Leslie E. Hurley, "Early Beginnings of Some Common Diseases, Their Recognition and Their Treatment".

July.—Meeting at Ballarat: Dr. G. T. James, "Bright's Disease and its Clinical Classification"; Dr. J. C. Douglas, "The Fundus in Nephritis"; Dr. Raymond Griffiths, "Some Aspects of the Renal Complications of Pregnancy"; Dr. G. R. Davidson, "Renal Function Tests and Their Application to Surgery".

September.—Meeting at Bendigo: Dr. L. E. Hurley, "The Principles Governing Prognosis in Heart Disease"; Dr. J. L. Thompson and Dr. L. Hartnett, "A Note on the Use of Paraldehyde as a Basal Anæsthetic".

The folowing clinical meetings were held:

March.—Queen Victoria Hospital.
April.—Austin Hospital.
May.—Melbourne Hospital.
June.—Saint Vincent's Hospital.
July.—Women's Hospital.
September.—Alfred Hospital.
October.—Eye and Ear Hospital.
November.—Children's Hospital.

Post-Graduate Lectures.

A series of lectures and demonstrations was arranged by the Council for the benefit of members. Ten lectures, beginning on May 19, were delivered at 4.30 p.m. in the Medical Society Hall, and were well attended. The following was the syllabus:

May 19: "Diagnosis and Management of Pleural Effusion and Empyema"—Dr. L. E. Hurley.
May 26: "Common Diagnostic Difficulties in Childhood"—Dr. J. W. Grieve.
June 2: "The Treatment of Some Common Medical Difficulties in Small Children"—Dr. F. Kingsley Norris.
June 9: "Injuries of the Hand"—Dr. A. E. Coates.
June 16: "Clinical Aspects of Alcoholism and Drug Addiction"—Dr. Reg. S. Ellery.
June 23: "Common Painful Affections of the Foot: Prevention and Treatment"—Dr. J. G. Whitaker.
June 30: "Migraine"—Dr. F. B. Lawton.
July 7: "Common Surgical Conditions in Childhood"—Dr. H. C. Colville.
July 14: "Avoidable Mistakes in Rectal Surgery"—Dr. A. J. Trinca.
July 21: "Bronchiectasis: Its Recognition and Treatment"—Dr. W. S. Newton.

Finance, House and Library Committee.

This Committee met regularly each week before the Council meeting and considered the financial position of the Association. It did not deal alone with the payments of accounts, but dealt with all matters pertaining to the maintenance of the building and of the library.

Some members have detained library books for longer than a reasonable period. It has been resolved to send a copy of the library rule to any delinquent, and, if no reply is received, an account will be sent for the cost of the book.

The King's Colours, which were presented in 1904 to the Australian Army Medical Corps for service in South Africa, were entrusted temporarily to the care of this Branch by Major-General Barber, D.G.M.S., on behalf of the Defence Department, and now hang in the foyer of the hall.

The Council voted £5 5s. to the Alfred Cox Memorial Fund. The Committee again reports an increase on previous years in the use that members have made of the library. Since the last report 1,210 volumes have been borrowed for use away from the library, an increase above last year of 176 volumes. In addition, by allowing the borrowed volumes to remain out for a shorter period, more members have been using the books in the library reading room. Through the grant from the British Medical Insurance Company, recorded in the last annual report, we have been able to obtain some valuable books for reference. Altogether 105 new volumes have been added in the last twelve months.

We have to thank the following for books and periodicals forwarded during the year:—Dr. W. H. J. Moore, Dr. G. P. O'Day, Dr. R. F. O'Sullivan, Miss Gray (daughter of the late Dr. A. S. Gray), the executors of the late Dr. A. V. M. Anderson, the Editor of *The Medical Journal of Australia*, the Commonwealth Statistician, University of Wellington, the Association of American Physicians (Philadelphia), the Pennsylvania University, the Philadelphia College of Physicians.

In the reading room, display cases presented by the British Medical Insurance Company have been erected for exhibition of manuscripts, letters and other objects of historical interest. We feel the library of the Association is a fitting place for the preservation of such documents and papers. The Committee would welcome additions to the pictorial or written records of members of our profession, especially of those who have worked for the welfare of this profession and who have occupied positions of public note. We have recently acquired a plaque, finely executed by Summers, of the late Dr. J. E. Neild, for many years Honorary Secretary and Honorary Librarian of the Medical Society of Victoria, and a man who occupied a prominent position in the literary world.

A book is being compiled giving information concerning those whose portraits are hung in the library, the council chamber and the lecture hall of our building, and a copy will be available for members to inspect.

We desire to record our appreciation of the gift of a bronze statuette, "Venus de Milo," presented to the Society by Dr. J. W. Harbinson.

Standing Insurance Committee.

During the twelve months under review, the Standing Insurance Committee has been unremitting in its efforts to evolve a satisfactory scheme for the provision of hospitals and medical services.

A scheme was prepared and submitted to a representative meeting of delegates on September 18, 1931, and approved with amendments. On October 20 following, a special meeting of the Branch, at which there were 60 members present, was held, which also approved of the scheme. The Council then appointed a special committee consisting of the Standing Insurance Committee and the Executive combined to promulgate the approved scheme. The necessary professional approval having been obtained, representatives of the Charities Board and the Lord Mayor's Fund were invited to meet in conference members of the combined Executive and Insurance Committees with a view to securing their cooperation. The conference met on four occasions, the result being the Lord Mayor's Fund and Charities Board disapproved of the Association's scheme on the grounds of the suggested control, its failure (alleged) to alleviate public hospital finances, the amount of medical benefit provided, rate of contribution (alleged to be too high), and that if the Association's scheme were launched it would damage the existing Lord Mayor's Fund scheme of industrial contributions. Leave to present an alternative was sought, which provided for control by the Lord Mayor's Fund with supervision by the Charities Board, distribution of fund surplus to charities, a total rate contribution of sixpence, including medical benefit of one and a half pence per contributor. Your representatives disapproved of charitable control and the proposed distribution of surplus funds. The result of the conference was, therefore, a deadlock. Following upon the breakdown of these negotiations, representatives of a number of bodies (churches, friendly societies *et cetera*) were invited on May 19 to hear an explanation of the Association's scheme. Generally, those present expressed themselves as being in

agreement. An endeavour to arrange for discussions with the friendly societies was then made, but postponement until a date to be mutually arranged was necessary.

Opportunity was taken on June 6 last to lay before the Honourable the Premier the Association's views respecting a satisfactory hospital policy, and at Sir Stanley Argyle's request a statement was prepared for Cabinet consideration. A committee of the Cabinet has now been appointed to investigate and report upon the hospital problem.

Action by the Government is now awaited.

General.

Social.—The Council entertained at dinner Mr. C. H. Fagge, Senior Surgeon, Guy's Hospital, London, who was visiting Australia in connexion with a meeting of the Royal Australasian College of Surgeons and as an official delegate to Australia from the Home Association. At the dinner members of the Branch, the Federal Committee, the Directors of the Australasian Medical Publishing Company, Limited, and the Editor of the journal were also guests.

The members of the Council entertained Dr. Morris at luncheon prior to his leaving for England.

Dr. C. H. Mollison.—As an expression of its appreciation of his work as Honorary Treasurer for thirty-seven years, the Council decided that a portrait in oil of Dr. C. H. Mollison should be placed in the hall of the Association and a replica presented to Mrs. Mollison.

The generous response made by members enabled a commission to be given to Mr. W. B. McInnes to carry out the work, which is now in hand.

Sir Henry Brackenbury.—The Council sent a letter of congratulations to Sir Henry Brackenbury, Chairman of the Council of the Home Association, on the distinction conferred upon him by His Majesty the King.

Congratulations.—Congratulations of the Council were extended to Dr. J. F. Wilkinson on his reelection to the University Council; to Sir James Barrett on his election as Vice-Chancellor of the University; to Dr. Robert Fowler on his appointment as Honorary Surgeon to the Governor-General; to Dr. Ernest Jones, Dr. H. Douglas Stephens and Sir Richard Stawell on their appointments as Vice-Presidents of Sections at the Centenary Meeting of the British Medical Association in England; to Sir Stanley Argyle on his succeeding to the Premiership of the State of Victoria; to Dr. Clive Shields, Malmsbury, on his election to the Legislative Assembly.

The Late Dr. Robert H. Todd.—The Australian Branches suffered a great loss in the death of Dr. Todd, Honorary Secretary of the New South Wales Branch and Secretary of the Federal Committee. The Council placed on record its profound regret at the loss of such a distinguished leader. The Chairman of this Council, Dr. Morris, represented this Branch at the memorial service held in Sydney on February 21. A large framed portrait of Dr. Todd has been placed in the Medical Society Hall.

Broadcasting, 3DB.—The Council favourably considered the proposal of 3DB to have a medical session once a week; and satisfactory conditions have been mutually arranged.

Vocational and Child Guidance Clinic.—General approval was given to the establishment of this centre, and certain conditions were afterwards appended to such approval.

Returned Soldiers' and Sailors' Imperial League of Australia.—The Returned Soldiers' and Sailors' Imperial League in Melbourne established a bureau for social welfare and hygiene of ex-soldiers' children. This Association offered its support and expressed its willingness to nominate three members to represent the Council on the Board of Medical Advisers, and requested that any details which might arise in administration should be submitted to the Board of Medical Advisers before such became finally adopted. It asked as a condition precedent that the honorary medical officers should be appointed to the Executive of the Board of Control. Negotiations are still proceeding.

Eye and Ear Hospital.—The Council protested against patients of the Eye and Ear Hospital, after having their eyesight tested by the honorary medical officers free, instead of receiving steel frames at a nominal cost, purchasing more expensive frames from the hospital. The hospital in this way has made a profit of more than £500 a year. The Council considers that if the patients can afford to purchase expensive frames, they can afford to pay something for medical advice.

Arbitration.—The Council appointed a Board of Arbitrators which investigated a dispute between two members, thus avoiding expensive litigation. It resolved that it would be prepared to appoint a Board of Arbitrators in any dispute between medical practitioners on the following conditions in writing:

(*a*) The parties agree to the procedure.
(*b*) The parties will abide by the decision of the arbitrators.
(*c*) An assurance must be given by the parties that no further legal proceedings will be instituted concerning the matter referred to.
(*d*) No legal representative be allowed at the arbitration unless under exceptional circumstances, to be decided absolutely by the arbitrators.

The Melbourne Permanent Post-Graduate Committee.

During the past year the Committee's activities have been satisfactorily maintained.

In February last advantage was taken of the presence in Melbourne of Mr. C. H. Fagge, Vice-President of the Royal College of Surgeons, to arrange with him to act as overseas lecturer for 1932, and deliver a series of three post-graduate lectures on acute abdominal emergencies. These attracted considerable interest and were attended by large audiences.

During the year arrangements were made through the Committee by several subdivisions of the Branch for lecturers to visit country centres.

A steady increase in the demand for post-graduate work is manifested by inquiries made, and it is satisfactory to note that greater numbers of practitioners in the various States of Australia and in New Zealand are utilizing the facilities provided in Melbourne for such work.

The Committee has learnt with considerable pleasure that a New South Wales Permanent Post-Graduate Committee has recently been formed by the New South Wales Branch of the British Medical Association. This has been founded as a separate and autonomous body with representatives from the New South Wales Branch, from the honorary medical staffs of the metropolitan hospitals, and from the Faculty of Medicine.

The Melbourne Committee, by cooperation and reciprocity with this newly constituted committee in New South Wales, as well as with those established in the other States, looks forward to further improvement in post-graduate facilities in Australia.

The annual refresher course this year was arranged for November instead of mid-winter. July or August had been chosen for some years past, but it was thought that November, which was the month selected during the first few years of the Committee's activities, would prove more suitable. The change this year should give an indication to the Committee in this matter.

Arrangements were made with Dr. C. H. Kellaway, Director of the Walter and Eliza Hall Institute, to give a series of six lectures in November concurrently with the refresher course. The subject was: "The Applied Physiology of Some Medical and Surgical Problems."

An obstetrics course at the Women's Hospital was also arranged for November.

During the early part of the year Dr. Alan Newton was elected Chairman, in the place of Dr. A. V. M. Anderson, who had resigned from the position of Chairman on account of ill-health.

Later in the year the Committee suffered a most grievous loss in the death of Dr. Anderson, who had acted as Chairman since its inception in 1920. His wise leadership and whole-hearted service had been of inestimable value, and the Committee will long mourn his passing.

During the year Dr. J. W. Dunbar Hooper, an original member of the Committee, and for many years Joint Honorary Secretary, resigned his position as a coopted member; his decision to retire was accepted with great regret.

W. W. S. JOHNSTON,
Honorary Secretary.

The British Medical Insurance Company of Victoria, Limited.

Now that the British Medical Insurance Company, Limited, has completed six and a half years of trading with the members of the Victorian Branch of the British Medical Association, it is felt that some remarks concerning the company might not be amiss in this annual report now before you.

The company has fulfilled, in the opinion of its directors, a much-felt want in the medical world, inasmuch as it has considerably lightened the burden of insurance premiums borne by the members in respect of property owned by them. Moreover, in the motor car "comprehensive" section of the business of the company, it has placed before the Association a policy unequalled throughout the Commonwealth for the liberality of its benefits and the moderate premium charged in respect therefor. It is no wonder, therefore, that there is now only a moderate minority of the medical profession which has not taken advantage of this popular motor car policy.

In the fire and the burglary departments also, the company has been able to place the profession on a 20% lower premium basis than is obtainable elsewhere.

It is felt, however, that in the case of those practitioners who have supported the company only in the motor car comprehensive section of this business, they should realize their obligation to the company in the fire department also, as it is mainly by the profit made in this latter department that the Company is enabled to continue its excellent motor car policy, and unless further support in the fire department is forthcoming, some of the motor car comprehensive insurance benefits may, in time, have to be restricted.

Since the inception of operations in March, 1926, the company has accumulated quite a substantial amount, which has been invested in Commonwealth Government securities on the company's own account, and, in addition, it has considerably assisted the British Medical Association Library by the voluntary gift of books to the value of £250.

Another benefit which has recently been conferred by the company upon members is the provision for parking attendants to care for the cars of members whilst attending meetings of the Association.

As the company does not transact "life" business on its own account, it recognized the need of being able to look after the "life" business of members as well as in other departments, and was extremely fortunate, therefore, in being able to secure a direct agency of the Australian Mutual Provident Society. By virtue of this agency, members of the Association, and their families, have conferred upon them the advantage of being able to place their "life" business through the agency of the British Medical Insurance Company, which receives commission thereon; this is for the ultimate and immediate benefit of the profession and, moreover, arrangements have been made whereby the profession can, where members so desire, avail themselves of the privilege of paying their "life" premiums by monthly instalments without any loading; this is a distinct concession on the part of the Australian Mutual Provident Society.

So far, quite a number of the "life" insurances of members have been handed to the agency of the British Medical Insurance Company, and this department of the business has been ably represented by a member of the Australian Mutual Provident Society's field staff, Major G. Maxted.

As regards personal accident and all sickness insurance, the directors of the company, realizing the hazardous nature of the business, decided to discontinue underwriting same on its own account, and was therefore fortunate in being able to arrange with the Australian Provincial Association to accept this class of business at distinctly low rates of premium with enhanced benefits, and, to date, quite a number of members have availed themselves of the privilege of effecting such policies with the Australian Provincial Association through the agency of the British Medical Insurance Company, which, in this instance also, receives a favourable commission rate.

It will be recognized, therefore, that the company is meeting the requirements of the profession in every possible way, and even undertakes, at a very moderate fee, the preparation of the income tax returns of members in a strictly confidential manner.

It is felt that this *résumé* of the company's operations would be incomplete without particulars being given of a few of the statistics of the company, and therefore the directors have much pleasure in appending the following:

Premium income for twelve months to October 31, 1932	£9,725	7	6
Claims paid for the year ending October 31, 1932	4,823	15	1
Premiums received since inception	49,545	19	4
Claims paid since inception	22,050	17	6
Number of policies issued since inception—			
Fire and householders'	1,106		
Motor car	4,431		
Burglary	98		
Plate glass	11		
Personal accident and sickness	59		
£1 sterling accident policy	443		
Total	6,148		

In conclusion, it is hoped that those members who have not yet availed themselves of the privileges offered by the British Medical Insurance Company, will now do so, and thereby assist to benefit the Association to an even greater extent than has been possible in the past.

It should be remembered also that policy-holders in this company receive the great benefit of their insurance arrangements being controlled by members of their own profession, who are thus more likely to regard the same upon a sympathetic basis, as in the event of any dissatisfaction arising at any time in respect of a claim on a policy, members have the right of appeal to the Board, who comprise well known members of their profession.

British Medical Agency Victoria Proprietary Limited.

This year has been a difficult one for all concerned, notwithstanding which a profit has been shown on the year's transactions. The directors are anxious that advice and help should be given to all members of the Association requiring it, and they are requested to consult the Managing Director in all matters involving agency work. The agency has not had the support of all members of the Association, but hopes in the future to enlist their interest and secure their help.

Sections.

Radiological.—During the year scientific papers have been given by the various members, and general discussion upon exhibited films has taken place. A recognition of the valuable services of the former Honorary Secretary, Dr. Colin Macdonald, has been placed on record. The Section has expressed its willingness to cooperate with any insurance scheme which the Association may develop, subject to the drawing up of a suitable scale of fees.

There are 20 members of the Section, and the balance to its credit in the bank is £16 0s. 4d.

DOUGLAS THOMAS,
Honorary Secretary.

Ophthalmological.—Six meetings of the Section have been held during the year. At four meetings cases of clinical interest were shown and discussed; the other two were held in conjunction with another section. The first of these combined meetings was held on March 11 in conjunction with the Ear, Nose and Throat Section, to consider the question of specialist consultants to lodges. Dr. D. Rosenberg addressed the members on behalf of the British Medical Association Council.

In May a combined meeting with the Neurological Section was held. Dr. H. F. Maudsley gave a valuable address, illustrated with lantern slides on "Ophthalmology in Relation to Early Neurological Diagnosis".

There were 48 members of the Section. Credit balance at bank of £28 12s. 1d.

W. J. L. DUNCAN,
Honorary Secretary.

Neurology and Psychiatry.—The following meetings were held: Two special meetings to consider the question of

consultants to lodges; a conjoint meeting with the Section of Ophthalmology, when Dr. H. F. Maudsley read a paper on "Ophthalmological Signs in Relation to Neurological Diagnosis"; a meeting at which Dr. Clarence Godfrey read a paper on the "Alcoholic Psychosis"; and another at which Dr. S. V. Sewell and Dr. Trumble opened a discussion on "Disorders of Nutrition Associated with Diseases and Lesions of the Nervous System, and their Management". All meetings have been fairly well attended, though many of those attending have not been financial members of the Section.

There are nine financial members. The financial statement shows a credit balance of £2 7s. 4d.

JOHN F. WILLIAMS,
Honorary Secretary.

Anæsthesia.—There are fifteen financial members. The policy of inviting non-members of the Section to read papers proved most successful. Four quarterly meetings were held, and papers were read by Dr. W. A. Hailes, Dr. R. Hennessy, Dr. Fay Maclure and Dr. B. T. Zwar.

ERIC N. GANDEVIA,
Honorary Secretary.

Gynæcological and Obstetrical.—During 1931-1932 there were eight meetings, which were well attended. Papers, cases and clinical material were submitted. There are forty members in the Section.

EDWARD R. WHITE,
Honorary Secretary.

Ear, Nose and Throat.—No report has come to hand.

Subdivisions.

Melbourne (Central).—This Subdivision met on March 9 and approved of the resolutions of the Council with regard to consultants to lodges. It thought that the circulation of a panel list should be restricted entirely to the profession, and the patient should have the right of a specialist on the panel, but that it is desirable that the specialist should attend the lodge member only on the recommendation of the lodge medical officer.

JOHN F. WILKINSON,
Honorary Secretary.

Western Suburbs.—Only two meetings were held during the year. 1. To consider the question of consultants to lodges. The Subdivision agreed with the resolutions as adopted by the Council. It was agreed that the inclusion of the fifth resolution as it stood was absolutely essential to the smooth working of the scheme. 2. A meeting with the chemists of the district was held on September 19. After a general discussion it was agreed to meet again and discuss matters in more detail.

M. J. COSTELLOE,
Honorary Secretary.

South Eastern (Suburban).—The annual general meeting was held on May 5, when the office-bearers were elected. At this meeting the resolutions of the Council regarding the consultant service to lodges were discussed and approved. A meeting was also held in August, 1932, to discuss the hospital policy of the Branch. Various social activities occurred during the year. The annual dinner was held in December, 1931.

A golf tournament was held on July 13 and a golf match was played against the Eastern Subdivision on September 16.

DOUGLAS C. PIGDON,
Honorary Secretary.

Ballarat.—In February, 1932, Dr. Julian Smith, at the annual meeting of this Subdivision, demonstrated the "Canti Film", afterwards giving a short talk on "Modern Methods of Treatment of Malignant Disease". There was a large attendance, many men coming in from the outlying towns. The film and lecture were greatly appreciated. A quarterly meeting was held on June 2, 1932, when Dr. J. G. Whitaker gave an interesting lecture on "Common Bone Conditions in Childhood". All the abnormalities discussed were illustrated with excellent X rays, a lecture of great practical value being given. A Branch meeting was held in Ballarat on Saturday, July 23, 1932. During the afternoon a clinical meeting was held in the Ballarat Base Hospital. An interesting series of cases was shown to a good attendance of members, both from the Ballarat Subdivision and from other subdivisions. During the evening the visitors were entertained to dinner at Craig's Hotel. After the dinner, papers were read and a discussion followed.

During the year the Ballarat Hospital Clinical Society has held monthly meetings. These meetings have been well attended and proved very successful.

The balance in the bank stands at £6 15s. 8d.

G. R. DAVIDSON,
Honorary Secretary.

Bendigo.—Several general and clinical meetings have been held during the year. Included in these were: 1. A clinical meeting at Echuca, which was a great success, local members contributing papers and demonstrating cases. Afterwards, visitors were entertained at dinner. 2. An address by Dr. Adey on some common forms of mental diseases which can be treated in private. There was a good attendance of members. 3. A Branch meeting was held on September 17, and many visitors were present from Melbourne and elsewhere. Clinical cases were demonstrated at the Bendigo Base Hospital, and, after dinner, papers were read by Dr. L. E. Hurley and Dr. Thompson and Dr. Hartnett, Castlemaine.

It is hoped in the coming year to hold clinical meetings in other centres. Several additions have been made to the local library.

A. R. THORNE,
Honorary Secretary.

Geelong.—On Saturday, March 19, a Branch meeting was held in Geelong, with a demonstration of cases at the Geelong Hospital in the afternoon, and a meeting in the evening, when papers were read by Dr. Leslie Hurley and Dr. A. Brown.

During the year we have had four clinical lectures at the Geelong Hospital: 1. A lecture on "Skin Diseases", by Dr. R. Wettenhall. 2. A lecture on "Children's Diseases", by Dr. R. Talent. 3. A lecture on "Asthma", by Dr. Ivan Maxwell. 4. A lecture on "Pyelograms and their Interpretation", by Dr. Leo Doyle.

Our members have protested to the Council against the Institute members getting consultative opinions from members of the Association in Melbourne. This is prejudicial to the interests of members of the Association in the Geelong district and weakens the strength of the organization. We consider that Melbourne specialists should make themselves familiar with the names of the unethical practitioners in this district so that such mistakes may not occur again.

We have a credit balance of £4 15s.

J. E. PIPER,
Honorary Secretary.

Gippsland.—The last meeting of the Gippsland Subdivision was held at Yallourn on Saturday, September 24, when Dr. C. Gordon Shaw read a paper on "Modern Methods in Treatment of Fractures" to twenty members of the Subdivision.

Meetings for year 1932-1933 have been fixed for Sale, Korumburra, Warragul and Yallourn in that order, the next meeting to be held at Sale Base Hospital early in December.

There is a credit balance of £34 4s. 2d.

CONRAD M. LEY,
Honorary Secretary.

South-Western.—Interest has been maintained at a high level during the past year. Four meetings in all have been held—at Mortlake, Warrnambool (2) and Hamilton—with an average attendance of thirteen members.

A business meeting was held on each occasion and cases of interest were shown.

1. Mortlake Meeting (December 12).—No post-graduate lecture was arranged.

2. Warrnambool Meeting (March 12).—A post-graduate lecture was given by Dr. R. W. Chambers on "Sterility"; Rubin's insufflation apparatus and hysterograms were shown.

3. Hamilton Meeting (May 21).—A post-graduate lecture was given by Professor Wood Jones on "Immaturity as a Factor in Evolution".

4. Warrnambool Meeting (August 20).—A post-graduate lecture was given by Dr. J. F. Mackeddie on "Lipiodol: Its Use in Spinal and Lung Conditions", with slides; also moving pictures of gaits in various neurological conditions.

Dr. Cole was not present, but the Honorary Treasurer (Dr. Oliphant) was asked to make a presentation to him on behalf of the Subdivision in recognition of his ten years of faithful and devoted service as Honorary Secretary.

A vote of thanks was also carried unanimously and recorded in the minutes to Dr. H. I. Holmes for his loyal and enthusiastic service as President for the past ten years.

There is a credit balance of £14 17s. 11d.

J. MORLET,
Honorary Secretary.

Goulburn.—During the year four meetings were held at Mooroopna. They were all well attended by members of the Subdivision.

1. A general meeting at which various matters of policy were discussed, chiefly those of hospital policy and the proposed voluntary medical insurance scheme.

2. A meeting at which the chief subject of discussion was a proposed contributory scheme for the Mooroopna Hospital.

3. A post-graduate meeting at which lectures were given by Sir Richard Stawell and Professor Marshall Allan.

4. The annual meeting, at which the office-bearers were elected.

The credit balance at the bank is £10 18s. 6d.

ANNIE L. BENNETT,
Honorary Secretary.

The reports of seven subdivisions have not come to hand in time for inclusion in this report.

On behalf of the Council,
B. MILNE SUTHERLAND, President.
J. P. MAJOR, Honorary Secretary.

INDUCTION OF PRESIDENT.

DR. B. M. SUTHERLAND then introduced DR. W. G. D. UPJOHN as the President of the Branch for 1933. The President expressed the thanks of the Council and of the Branch to members of the Council who were not continuing for the ensuing year: Dr. R. G. McPhee, Dr. Alan Hailes, Dr. J. R. Bell and Dr. S. C. Fitzpatrick.

PRESIDENT'S ADDRESS.

DR. B. M. SUTHERLAND then delivered his address (see page 103).

VOTES OF THANKS.

A vote of thanks to Dr. B. M. Sutherland for the services that he had rendered to the Branch during his year of office was moved by Sir James Barrett, seconded by Dr. J. Newman Morris and carried by acclamation.

A vote of thanks to the retiring members of the Council was also carried.

Correspondence.

MODERN OPTOMETRY.

SIR: Your editorial of December 10, 1932, has been read with great appreciation and interest by ophthalmologists in Victoria, and it is hoped that it has aroused interest amongst the general body of practitioners.

The position was explained so clearly that there is little more to be said. Eyes cannot be examined and glasses prescribed mechanically; there are too many other factors to be considered; and these factors cannot be understood without a sound special training in addition to a general medical education.

The eye is a part of a living organism, and perhaps the earliest signs of general disease are often indicated during an ophthalmic examination. At present an oculist cannot complete his training much under ten years, and if patients are to obtain the full benefit of general and special knowledge the attempt to make the fitting of spectacles an end itself can only result in numerous disasters.

An optician may have a knowledge of optics, but that does not equip him to examine the eye any more than a knowledge of pharmacy and *materia medica* would fit a chemist to examine a patient medically. The danger would be often greater in the case of the optician than it would be in the case of the chemist.

Though the great majority of practitioners recognize this, there are still a few who, through want of thought, send patients to opticians to have their eyes tested, whereas they would not for a moment consider the possibility of a surgeon referring a patient to a chemist for medical treatment.

You very wisely point out that "what is needed is a realization by the public that only medically trained persons are competent to discover disease processes", and the public cannot learn this until all practitioners realize the importance of sending their patients to qualified ophthalmologists for examination.

There is a difficulty, of course, with practitioners in remote country districts, but there much future trouble for the patient might be avoided if it were explained that the examination for glasses by the optician would not dislose the presence or absence of any ocular signs of disease and if they were to advise their patients to be examined by an oculist as soon as they could arrange to do so.

Yours, etc.,

ARTHUR JOYCE,
President,
Ophthalmological Society of Victoria.

55, Collins Street,
Melbourne,
January 10, 1933.

THE FUTURE OF MEDICINE AS A PROFESSION.

SIR: While visiting the out-patient department of a public hospital one afternoon this week, I noticed several well dressed women arrive in motor cars, young men on motor cycles costing anything up to a hundred pounds, fashionably attired girls, and many others. When one of the girls removed her hat, I observed her hair done in a Marcel wave, costing perhaps two pounds. The spectacle caused me no surprise; it has became the order of the day. Surely this state of affairs lies in our own hands to remedy; no outsiders are going to remedy it for us. As Dr. Douglas Carruthers points out in his admirable letter, the inroad of the public hospital into private practice is fast crippling our profession. It should not be a tremendously difficult matter to exclude the abovementioned class of patient from the public hospital. Were we to withdraw our services from the hospitals, the hospital committees, consisting of astute business men, would soon see that people who could afford to pay fees were not treated for nothing.

Exclusion of those able to pay would give private practice new life and augment the lists of the lodges. I have discussed the matter with many lodge secretaries, and they feel the drift as keenly as the practitioner. Bigger lodge lists would assist the profession and at the same time relieve the overcrowding and congestion in the clinics.

If the present state of affairs continues there will soon be no private patients, and a fierce competitive scramble for those that do remain. The result of this would mean the death knell of our profession. Now is the time for action. Dr. Carruthers discusses another important consideration, namely, the overcrowding of the profession. It seems to me that competitive entrance to the medical course is the only satisfactory remedy. This and a weeding out of the general hospitals would greatly improve the future of medicine as a profession.

I often think we resemble a great army without a strong general to lead the way.

Yours, etc.,

H. L. DAVIS, M.B., B.S.

Carlisle Street,
St. Kilda,
Victoria,
January 12, 1933.

Obituary.

EDWARD PETER LEAVY.

WE regret to announce the death of Dr. Edward Peter Leavy, which occurred on January 15, 1933, at Innisfail, Queensland.

Books Received.

THE INEQUALITY OF MAN AND OTHER ESSAYS, by J. B. S. Haldane, F.R.S.; 1932. London: Chatto and Windus; Australia: Angus and Robertson, Limited. Demy 8vo., pp. 302. Price: 11s. 3d. net.

THE USE OF LIPIODOL IN DIAGNOSIS AND TREATMENT: A CLINICAL AND RADIOLOGICAL SURVEY, by J. A. Sicard and J. Forestier; 1932. London: Humphrey Milford (Oxford University Press). Royal 8vo., pp. 244, with illustrations.

Diary for the Month.

FEB. 1.—Western Australian Branch, B.M.A.: Council.
FEB. 1.—Victorian Branch, B.M.A.: Branch; Presentation of Annual Balance Sheets.
FEB. 2.—South Australian Branch, B.M.A.: Council.
FEB. 7.—New South Wales Branch, B.M.A.: Organization and Science Committee.
FEB. 14.—New South Wales Branch, B.M.A.: Ethics Committee.
FEB. 21.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
FEB. 22.—Victorian Branch, B.M.A.: Council.
FEB. 23.—South Australian Branch, B.M.A.: Branch.
FEB. 28.—New South Wales Branch, B.M.A.: Medical Politics Committee.

Medical Appointments.

Dr. J. J. Maloney has been appointed Government Medical Officer at West Wyalong, New South Wales.

* * *

The undermentioned have been appointed members of the New South Wales Medical Board, in pursuance of the provisions of the *Medical Practitioners Act*, 1912: Dr. A. W. Holmes à Court (B.M.A.), Dr. H. R. G. Poate (B.M.A.), Dr. H. M. Moran (B.M.A.), Dr. R. B. Wade (B.M.A.), Dr. F. A. Maguire (B.M.A.), Dr. E. H. Molesworth (B.M.A.), and Dr. H. Ritchie (B.M.A.).

* * *

Dr. G. C. Jago has been appointed Acting Medical Superintendent of the Hospital for the Insane, Beechworth, Victoria.

* * *

Dr. J. H. L. Cumpston (B.M.A.) has been appointed a member of the Council of the Canberra University College.

Medical Appointments Vacant, etc.

FOR announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser", page x

BRISBANE MATER CHILDREN'S HOSPITAL, BRISBANE, QUEENSLAND: House Physician, House Surgeon.

DISTRICT HOSPITAL, KALGOORLIE, WESTERN AUSTRALIA: Resident Medical Officer.

GRESSWELL SANATORIUM, MONT PARK, VICTORIA: Resident Medical Officer.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 135, Macquarie Street, Sydney.	Australian Natives' Association. Ashfield and District United Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham United Friendly Societies' Dispensary. Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney. North Sydney Friendly Societies' Dispensary Limited. People's Prudential Assurance Company Limited. Phœnix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association, Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Brisbane Associated Friendly Societies' Medical Institute. Mount Isa Mines. Toowoomba Associated Friendly Societies' Medical Institute. Chillagoe Hospital. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL are advised, in their own interests, to submit a copy of their agreement to the Council before signing.
SOUTH AUSTRALIAN: Secretary, 207, North Terrace, Adelaide.	All Lodge Appointments in South Australia. All Contract Practice Appointments in South Australia.
WESTERN AUSTRALIAN: Honorary Secretary, 65, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW ZEALAND (Wellington Division): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Editorial Notices.

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